

FLIGHT

&
The AIRCRAFT
ENGINEER.

First Aero Weekly in the World.

Founder and Editor: STANLEY SPOONER.

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EDITORIAL COMMENT.

"Newspapers are an essential part of our war organisation."—
(Sir Auckland Geddes, Minister of National Service.)



IN the ordinary way we are dead against the institution of new orders and decorations. Since the beginning of the war several of these have been created, and the manner in which they have been absolutely thrown about has done a great deal to discount the value of the honours which really matter. To such a pass has the awarding of honours and distinctions come, that the constant prayer of the modest soldier or citizen war-worker is that the Fates will be kind to him and permit his escape from the shower of promiscuity. Therefore to increase the number of these sources of danger is the last thing to be desired. However, there are honourable exceptions, and we must say we like the suggestion that has been made for a new decoration to be awarded to members of the Royal Air Force for distinguished conduct in the field. The idea, as we conceive it, is that there should be instituted an honour corresponding to the Distinguished Service Cross of the Royal Navy and the Military

A New Decoration for the R.A.F.

Cross of the Army. Our own view is that it should go a step farther and include a decoration for non-commissioned officers and men analogous to the D.S.M. and the D.C.M.

As a matter of fact, it is not easy to see how the creation of such a distinction is to be avoided if the gallantry of the *personnel* of the R.A.F. is to meet with adequate recognition. It has to be remembered that the R.A.F. is now a completely separate service, with its own institutions and its own methods, having no more in common with the other two Services than there is in the relations between the two last, save that it has a common task and owes a single allegiance. That is to say, for all practical purposes it has become a completely self-contained Service, and it thus follows that its *personnel* is not qualified for the award of decorations peculiar to its sister Services. For example, we do not think, speaking from recollection, that any soldier has ever received the award of the D.S.C. or D.S.M., because these are purely naval decorations. On the other hand, it is a fact that a few naval officers and ratings have been decorated in the field with the M.C. and D.C.M., but that has been done under very exceptional circumstances and for very special services in connection with purely military operations. That it has been done does not alter the fact that these are military decorations pure and simple, and that in the ordinary way services which would bring their award to the soldier would miss the sailor who happened to be serving ashore with the Army. So it is likely to be in the case of officers and men of the R.A.F. under the new conditions, and it becomes quite clear that the only way in which conspicuous service can be rewarded is by the institution of a special honour such as that suggested.

Party Politics and the Air Vote.

The division on the Air Estimates last week is eloquent of the new growth of the party spirit in Parliament. Every decent person had hoped that the war had caused a suspension of the spirit of political hostility, at least until the task of beating the Germans had been achieved. In common with most, we had believed that, petty and mean as is the general atmosphere of Parliamentary life, the great emergency into which the Empire was suddenly plunged nearly four years ago had led to a consolidation of interests and had for the time being taught

the professional politician that there are greater things even than the issues of "Party."

It is becoming increasingly clear that although the spirit undoubtedly lay dormant for a time, it is just as certainly a long way from being dead. The present Parliament is becoming senile. It has extended its own term of life several times, and its members have voted themselves a safe continuance of their salaries, knowing at the same time that it has ceased to represent the nation, with whose feelings and ideals it is completely out of touch. We agree that a General Election in the middle of a great war would be very close to a catastrophe, but we are coming to a point now at which most thinking people are deliberately of opinion that even a General Election, with all its dangers, would be less catastrophic than a further lease of life to the present House of Commons. If there were none but general principles to go upon the point might be debatable. It would be in the highest degree dangerous to force a political crisis merely on the ground that the present House has lived long enough, or even on the score that it had ceased to be representative. That would merely be to argue that it is useless—a point of view which we imagine would be concurred in by most who are not blind partisans. At least it would only connote that, even if not helpful, Parliament was not actually dangerous to Imperial interests. But when the old spirit of Party, with all its collaterals of petty spite and the desire to score off the opponent, no matter at what cost to what interests, is seen to have revived in its acutest form it is impossible to regard the situation as being other than highly dangerous to all we have been fighting for—and paying for—these four years past.

The division on the Air Vote demonstrated the working of the Party spirit at its worst. Mr. Asquith, who figures still as the Leader of the "Old Gang," refrained from voting, thus keeping to the letter but certainly infringing the spirit of the Party truce. His personal satellites almost to a man went into the Lobby against the Government. It was not, either, as though they voted on any question of vital principle. The excuse was the resignation of General Trenchard, though the plain person who is not a politician would have thought that, after the Prime Minister's full explanation of the circumstances, there need have been no question of trying to embarrass a Government whose task is, in all conscience, difficult enough. That such matters, which really concern the administration of one of the fighting Services, should be used as handles to political moves is intolerable at a time like the present. There is but one single aspect of the matter which may be regarded as somewhat satisfactory, and that is that it serves still further to expose the rottenness of the Party game.

America's Air Fleet.

After what has seemed to be an inordinate period of delay, America's great air fleet is really beginning to materialise, and it is permissible to hope that before many months have passed it will have begun to make itself decisively felt on the battle-fronts of Europe. Every report that reaches us from the other side of the Atlantic is eloquent of the enormous progress which is being made towards assuring production on a scale commensurate with the resources and determination of the great Western Republic.

The delays which have occurred in the American

programme have undoubtedly been disappointing to the rest of the Allies, who have borne the burden and heat of the war for nearly four years, and it is perhaps natural that a little restive criticism should have been uttered here and there. Not that the will of America to put her full weight in the war has ever been called in question, but there has certainly been some disposition to disappointment at the delay and to speculation as to the cause. However, that is now a matter of the past and may be left where it is.

It is reasonably certain that those who have criticised the delay in the American programme have failed to take account of the fact that America, in common with the other Allied nations which had not made preparation for war their whole aim in times of peace, had to go through a period of organisation of production before her aid could become effective. Armies and air fleets are not created by a stroke of the pen. American industries were still intent, thirteen months ago, on peaceful industry, and even though some considerable proportion of her factories had been in whole or part engaged in the production of munitions of war for the Allies, it still has to be remembered that it was only a proportion. Great as were the supplies that came to us across the Atlantic before America herself entered the war, they were still but a fraction of the whole needed for the prosecution of war on the modern scale. Therefore when at last America decided that she could no longer remain out of the struggle, the first thing to be done was to organise her factories for war. We of our own experience know what it means to take all our essential industries off their legitimate work and to put them on to another class of work which entails a complete recasting of all the systems previously in use. Apart from every other consideration, time—and a great deal of time—is necessary, because it is not enough to partially organise and endeavour to complete the process while engaged on actual production. To attempt that is to invite defeat of the whole effort from the start. It took us a full two years to effect the metamorphosis, though it is true we laboured under the handicap of having to conduct intensive war at the same time, so that for America to have practically completed her war organisation within the year is something she is entitled to point to with considerable pride.

It may be that incidental mistakes, involving delay and disappointment in the full programme, have been committed. Indeed, we are assured that our American friends would be the first to admit that errors have been so committed, but on the other side of the ledger we think they are to be congratulated on having made as few as they have. The main point of the thing is that American help bids fair to come to the Allies in full measure just when it will be of most service to the cause of civilisation. We have carried the burden, and it has been a heavy one, but we have carried it, and that is all that matters now. American troops are even now in the line with our own and the French in the West, taking their share in the greatest battle in history. They are coming in at the rate of many thousands a month—far more thousands than we had any right to hope for at this stage—and now we hear that the air fleet is coming along fast, also in its thousands. Which is all to the good of the future.

There is just one point to which reference may be made before we leave the subject of American assistance to the Allies. It seems to have been forgotten

by those who have been inclined to carp at the slowness of the American entry into the war that, as well as having to build up the war organisation of her factories for her own air fleet, America has ever since her entry into the war been supplying very large numbers of machines for the use of the Allies, and it scarcely needs to be pointed out that this has not in any way been helpful to her in the matter of her own preparations. When the whole history of the building up of America's colossal war machine comes to be written, the world will then—and then only—be able to gauge with what ability it has been constructed and what a gigantic work has been achieved within a short space of time.

**Commercial
Aviation
in the
Future.**

Addressing the American Luncheon Club the other day, Mr. Holt Thomas, who has already done good service to the movement by the clarity of his views and his transparent faith in the future of aerial transport, had a great many interesting things to say about aviation after the war. He began by pointing out—and it is perfectly true—that had we had enough aeroplanes the recent German offensive in the West could have been absolutely blocked from the air. We could have kept every railway line blockaded, and undertaken that no military forces could move along the roads. That we had not those aeroplanes is due, as he said, to the fact that the pioneers of the movement were for ten years regarded as fanatics, and that military men, with but few exceptions, discounted the value of aircraft in the wars of the future if they hazily believed they would have any value at all. Even after the French Army manoeuvres of 1910, when the value of airships and aeroplanes first began to be appreciated, neither soldiers nor business men really believed in their real future. The consequence of this attitude was that when war broke out none of the belligerent Powers possessed an Air Service worthy of the name. We ourselves were well in rear of the procession, and since then we have had to create an enormous service from practically nothing. It is somewhat doubtful

even now if the business community realises the vast potentialities of aerial transport. True, it regards the aeroplane as a wonderful instrument of war, but as a transport vehicle—well, it may have possibilities, but it will be well to wait and see how those possibilities develop in the hands of enthusiasts! We believe at the moment that this is not at all an unfair statement of the position which men like Mr. Holt Thomas are doing their level best to improve.

In advancing the claims of aerial transport, the speaker made the valuable points that—first, the aeroplane is faster than any other form of transport; second, it is quite reliable to-day, and will become more so as engines are improved; and, third, that it is not too costly to run to make it an uncommercial proposition. Speaking of the claims to speed, he advanced some interesting figures. From London to Berlin the fastest route was 20½ hours, but the aeroplane could cover the distance in 7½ hours. To Constantinople the train and steamer time was 72 hours, while by aeroplane it was only 20 hours, at an average speed of 80 m.p.h., a speed largely exceeded every day. Taking world distances, there was no place on earth distant more than five days from London at 80 m.p.h. It is facts and figures like these which are best calculated to bring home to the business community, upon whom the future of commercial aviation most chiefly depends, that we are indeed on the threshold of a new era in locomotion. We shall have to move a mass of inertia before commercial aviation shall have become an established factor in the world's relations, and a great deal of pioneer work still remains to be done in the education of the people to the full possibilities of aerial transport. The mechanics of the thing are established beyond all question, which is as much as to say that all that is required is to carry out that education in order that full advantage may be taken of what we know to be practical. At least we know the future to be certain. All that is uncertain is the speed of development, and that depends entirely on the effect of such missionary work as Mr. Holt Thomas and others like him are carrying out.



From "L'Aérophile."

A recent type of
German L.V.G.
biplane of the
C. V. class.

HONOURS.

Honours for the R.N.A.S.

THE King has been pleased to approve of the award of the following decorations and medals to officers and men for services in action with enemy submarines:—

Distinguished Service Cross.

Flight Lieut. J. R. Crouch, R.N.A.S.

The following officers and men have been mentioned in despatches:—

Flight Lieut. C. S. Hay, R.N.A.S.

Acting Air Mech., 1st Class, G. W. Ewbank, O.N. F 16420.

Leading Mech. A. Timms, O.N. F 20323.

The King has been pleased to approve of the award of the following honours:—

Distinguished Service Order.

Comdr. C. G. Chichester, R.N.—In recognition of the energy, good judgment, and coolness under fire with which he organised and executed the evacuation of the aerodrome at Thermi Mityleni, on October 9th to 15th, 1917. The evacuation of the aerodrome was carried out under continuous bombardment by the enemy, and was effected entirely without casualties and without loss of stores.

It was announced in a supplement to the *London Gazette* on May 1st that the King has been pleased to approve of the award of the following honours, decorations and medals to officers and men of the Royal Naval Air Service for zeal and devotion to duty during the period from July 1st to December 31st, 1917:—

Distinguished Service Order.

Squadron Commander C. R. F. Noyes, R.N.; Squadron Commander V. Nicholl, D.S.C., R.N.A.S.

Distinguished Service Cross.

Flight Commander G. G. H. Cooke, R.N.; Flight Commander W. G. Sitwell, R.N.; Flight Commander W. H. Wilson, R.N.A.S.; Flight Commander E. de C. Hallifax, R.N.A.S.; Flight Commander W. F. Horner, R.N.; Flight Lieut. (acting Flight Commander) B. E. P. Gregg, R.N.A.S.; Flight Lieut. (acting Flight Commander) J. K. Waugh, R.N.A.S.; Flight Lieut. (acting Flight Commander) C. Gilmour, R.N.A.S.; Flight Lieut. W. Underhill, R.N.; Flight Lieut. C. C. Carlisle, R.N.A.S.; Flight Lieut. F. N. Halstead, R.N.A.S.; Flight Lieut. L. H. Wilkins, R.N.A.S.; Flight Lieut. R. S. Montague, R.N.; Flight Lieut. E. G. Hopcraft, R.N.A.S.; Flight Lieut. K. F. Saunders, R.N.A.S.; Flight Lieut. S. E. Taylor, R.N.A.S.; Flight Lieut. C. H. Fitzherbert, R.N.A.S.; Flight Lieut. D. Knowles, R.N.A.S.; Flight Lieut. F. S. Mills, R.N.A.S.; Flight Lieut. G. M. F. O'Brien, R.N.A.S.; Flight Lieut. T. O'Connor, R.N.A.S.; Flight Lieut. A. R. T. Pipon, R.N.A.S.; Flight Sub-Lieut. (acting Flight Lieut.) E. E. Maitland-Heriot, R.N.A.S.; Flight Sub-Lieut. N. H. Woodhead, R.N.A.S.

Distinguished Service Medal.

O.N. F.21833, Acting Air-Mech., 1st Gr., W. H. Allan; O.N. F.4874, Leading Mech. (E.) E. F. Anthony; O.N. F.13496, Leading Mech. W. C. Argent; O.N. 343587 (Ch.), C.P.O. Mech., 1st Gr. (C.), J. F. Armitt, O.N. F.9322, C.P.O. Mech. (W.) A. W. Ayres; O.N. F.477, C.P.O. Mech., 2nd Gr. (E.), H. R. Beckett; O.N. F.13884, P.O. Mech. (E.), G. F. Blyth; O.N. F. 2836, P.O. Mech. (E.) G. S. Browning; O.N. F.13613, Leading Mech. W. H. Butt; O.N. F.12523, Leading Mech. (E.) G. J. Chandler; No. R.M. Po.15413, C.P.O. Mech., 2nd Gr., W. J. Coadwell; O.N. F. 4597, P.O. Mech. R. Connor; O.N. F.5262, Leading Mech. (E.) W. G. Cornell; O.N. F.2519, C.P.O. Mech., 3rd Gr. (E.), A. E. Crispin; O.N. F. 3843, Acting P.O. Mech. C. Curtis; O.N. F.17941, P.O. Mech. D. T. Davies; O.N. F.14902, Acting Air-Mech., 1st Gr., R. J. Davis; O.N. F.4992, C.P.O. Mech., 3rd Gr., W. G. C. Davis; O.N. F. 14195, C.P.O. Mech. G. W. Denmark; O.N. F. 2154, C.P.O. Mech., 3rd Gr., J. R. Douglas; O.N. F.7501, Leading Mech. P. Durrant; O.N. F. 3624, C.P.O. Mech., 2nd Gr., P. A. B. Dyke; O.N. F.132, Leading Mech. W. A. East; O.N. 191047 (Ch.) P.O. Mech., 1st Gr., S. J. Edwards; O.N. F.3423, P.O. Mech. G. H. Ellis; O.N. F.403, C.P.O. Mech., 1st Gr., B. J. Fearn; O.N. 117557 (Po.), P.O. W. Feldwick; O.N. F.3871, C.P.O. Mech., 3rd Gr., G. J. Gawthorn; O.N. 227264 (Po.), Leading Mech. G. Greenwood; O.N. 235356 (Ch.), C.P.O. Mech., 2nd Gr., A. E. Groom; O.N. F.12258, Air-Mech. 1st Gr., A. M. Hallawell; O.N. F.1860, P.O. Mech. (E.) E. A. Harrison; O.N. F.18509, Acting Air-Mech., 1st Gr. (E.), J. Hawes; O.N. F.6644, Air-Mech., 1st Gr., H. E. Hayes; O.N. F.5846, Acting Air-Mech., 1st Gr., W. S. Hemery; O.N. F.23608, Acting Air-Mech., 1st Gr., D. Henderson; O.N. F. 19727, Leading Mech. R. L. Hobson; O.N. F.2687, P.O. Mech. H. Hosmer; O.N. F.2250, P.O. Mech. D. J. Hull; O.N.

F.18174, Acting Air-Mech., 1st Gr., A. H. Johnson; O.N. F.4532, C.P.O. Mech., 3rd Gr. A. Jones; O.N. F.31161, A.C., 2nd Gr., J. W. Key; O.N. F.2204, P.O. Mech. T. Matthews; O.N. F.695, C.P.O. Mech., 2nd Gr., W. R. Mayes; O.N. 223410 (Dev.), C.P.O. Mech., 3rd Gr., F. Miller; O.N. F. 314, C.P.O. Mech., 3rd Gr. (E.), S. W. Painter; O.N. 310410 (Dev.), C.P.O. Mech., 2nd Gr., G. S. Palmer; O.N. F.8110, P.O. Mech. (E.) W. E. Palmer; O.N. F.7308, Air-Mech., 1st Gr. (E.), B. Percy; O.N. F.1488, Leading Mech. J. L. Plumbe; O.N. F.662, P.O. Mech. G. H. Price; O.N. F.13772, C.P.O. Mech., 3rd Gr. (E.), A. J. Ramsey; O.N. F.303, C.P.O. Mech., 3rd Gr., H. J. Richer; O.N. F.3564, P.O. Mech. N. K. Ruxton; No. R.M. Ch./A.8603, C.P.O. Mech., 3rd Gr., A. J. Saunders; O.N. 225269 (Po.), Air-Mech. 1st Gr., A. A. Smith; O.N. F.3398, C.P.O. Mech., 3rd Gr. (E.), A. S. Stephenson; O.N. F.8596, P.O. Mech. (C.), G. Swindells; O.N. F.8200, Air-Mech., 1st Gr., F. E. Tattershall; O.N. F.9430, P.O. Mech. (E.), T. W. Thirlwall; O.N. F.2575, P.O. Mech. F. T. Tucker; O.N. F.3901, P.O. Mech. (E.) P. P. Vobe; O.N. F. 2683, P.O. Mech. C. H. Wainwright; O.N. 344482 (Po.), C.P.O. Mech., 2nd Gr. (C.), H. Walder; O.N. F.12468, Leading Mech. J. W. Walker; O.N. J.3349 (Po.), P.O. Mech. H. M. Watson; O.N. K.15829 (Po.), P.O. Mech. J. R. Woollard; O.N. F.18949, Air-Mech., 2nd Gr., P. L. Worthington; O.N. F.469, C.P.O. Mech., 2nd Gr., J. Wrigley; O.N. F. 4315, Acting Air-Mech. 1st Gr., L. H. Wright; O.N. F. 43545, C.P.O. Mech., 3rd Gr., J. M. Wyer.

Bar to the D.S.M.

O.N. J.13350 P.O. Mech. T. B. Thomson, D.S.M. (Dev.).

Mentions in Despatches.

The following officers and men have been mentioned in Despatches:—

Wing Capt. H. P. Smyth-Osbourne, R.N.; Wing Commander T. R. Cave-Brown-Cave, R.N.; Squadron Commander J. L. Travers, R.N.A.S.; Squadron Commander L. Tomkinson, R.N.; Squadron Commander R. H. Jones, R.N.A.S.; Squadron Commander R. J. J. Hope-Vere, R.N.A.S.; Squadron Commander G. H. Scott, R.N.A.S.; Squadron Observer F. H. Swann, R.N.A.S.; Squadron Observer G. L. Thomson, D.S.C., R.N.A.S.; Lieut.-Commander R. B. B. Colmore, R.N. (Flight-Commander R.N.A.S.); Flight Commander (acting Squadron Commander) E. J. Hodson, R.N.A.S.; Flight Commander B. Travers, R.N.A.S.; Flight Commander M. E. A. Wright, R.N.A.S.; Flight Commander N. C. Blanch, R.N.A.S.; Flight Commander E. S. Cripps, R.N.A.S.; Flight Commander G. H. Jackson, R.N.A.S.; Flight Commander W. K. F. G. Warneford, R.N.A.S.; Flight Commander B. C. Windeler, R.N.A.S.; Flight Lieut. W. H. S. Aplin, R.N.A.S.; Flight Lieut. P. E. Maitland, R.N.; Flight Lieut. C. H. W. Godfrey, R.N.A.S.; Flight Lieut. W. G. Pigott, R.N.; Flight Lieut. G. R. I. Snow, R.N.; Flight Lieut. W. B. Callaway, R.N.; Flight Lieut. J. F. Dixon, D.S.C., R.N.A.S. (killed); Flight Lieut. J. F. Hart, R.N.A.S.; Flight Lieut. D. B. M. Hume, R.N.A.S.; Flight Lieut. L. M. Bailey, R.N.A.S.; Flight Lieut. T. E. B. Howe, R.N.A.S.; Flight Lieut. W. E. C. Parry, R.N.A.S.; Flight Sub-Lieut. G. H. T. Barnes, R.N.A.S.; Flight Sub-Lieut. T. C. Pattinson, R.N.A.S.; Flight Sub-Lieut. E. J. Addis, R.N.A.S.; Flight Sub-Lieut. J. A. E. Vowles, R.N.A.S.; Observer Sub-Lieut. D. G. McGregor, R.N.A.S.; Flight Sub-Lieut. A. Ward, R.N.A.S.; Flight Sub-Lieut. S. B. Harris, R.N.; Prob. Observer Sub-Lieut. G. G. Speight, R.N.A.S.

Warrant Officer, 1st Gr., F. Susans, R.N.A.S.; Warrant Officer, 2nd Gr., F. E. Bishop, R.N.A.S.; Warrant Officer, 2nd Gr., R. W. Edwards, R.N.A.S.; Warrant Officer, 2nd Gr., A. Page, R.N.A.S.; Warrant Officer, 2nd Gr., F. Wiltshire, R.N.A.S.; Warrant Officer, 2nd Gr., H. J. Usher, R.N.A.S.; Warrant Officer, 2nd Gr., W. Wheatley, R.N.A.S.; Warrant Officer, 2nd Gr., H. Williams, R.N.A.S.; Warrant Officer, 2nd Gr., L. J. Chandler, R.N.A.S.; Warrant Officer, 2nd Gr., E. W. Mann, R.N.A.S.

Lieut.-Commander (acting Commander) L. H. Strain, D.S.C., R.N.V.R.; Lieut.-Commander A. S. Halliwell, R.N.V.R.; Lieut.-Commander T. A. Monckton, R.N.V.R.; Lieut.-Commander G. H. Abell, R.N.V.R.; Lieut.-Commander A. S. Langley, R.N.V.R.; Lieut.-Commander A. Partidge, R.N.V.R.; Lieut.-Commander C. C. Turner, R.N.V.R.; Lieut.-Commander G. Hazelton, R.N.V.R.; Lieut. (acting Commander) G. W. F. Fraser, R.N.V.R.; Lieut. (acting Lieut.-Commander) F. Atkinson, R.N.V.R.; Lieut. (acting Lieut.-Commander) D. A. B. Morle, R.N.V.R.; Lieut. V. A. F. Bellamy, R.N.V.R.; Lieut. C. Harrison, R.N.V.R.; Lieut. J. Robinson, R.N.V.R.; Lieut. R. M. S. Veal, R.N.V.R.; Lieut. J. K. Wells, R.N.V.R.; Lieut. O. C. Williams, R.N.V.R.; Lieut. J. Chapman, R.N.V.R.; Lieut. W. W. Farthing, R.N.V.R.; Lieut. C. K. Jupp, R.N.V.R.; Lieut.

F. Smith, R.N.V.R.; Lieut. R. Spickernell, R.N.V.R.; Lieut. W. Young, R.N.V.R.; Sub-Lieut. C. R. E. Pope, R.N.V.R.; Sub-Lieut. F. K. Wells, R.N.V.R.

O.N. F. 10687 Leading Mech. T. Adam; O.N. F. 13318 Leading Mech. (E.) A. E. Allard; O.N. F. 19966, Leading Mech. T. B. Arlette; O.N. F. 6981, C.P.O. Mech., 3rd Gr., C. Armitage; O.N. F. 28288, Leading Mech. J. A. Askew, O.N. F. 345, C.P.O. Mech., 3rd Gr., B. A. Bagnall; O.N. F. 11681, Acting Air-Mech., 1st Gr., W. Baker; O.N. F. 7053, P.O. Mech. W. J. Bartle; O.N. F. 12834, Air-Mech., 1st Gr., W. H. Barton; O.N. 167555 (Ch.), M.A.A. H. C. Beeton; O.N. F. 1082, P.O. Mech. (E.) R. Bellian; O.N. F. 8387, Leading Mech. (E.) W. A. Betteley; O.N. F. 4277, C.P.O. Mech., 3rd Gr. (E.), J. B. Bishop; O.N. F. 14638, Leading A.C. H. W. Bompas; O.N. A.A. 1209, Leading Seaman, S. Boucher, R.N.V.R.; O.N. F. 12163, P.O. Mech. (E.) F. E. Bowden; O.N. F. 2661, C.P.O. Mech., 3rd Gr. (E.), O. C. Bown; O.N. F. 6884, Leading Mech. S. Bremner; O.N. F. 7180, C.P.O. Mech., 3rd Gr., E. J. Bristow; O.N. F. 3641, C.P.O. Mech., 3rd Gr., N. S. Calder; O.N. F. 18438, Air-Mech., 1st Gr., (E.), C. Calver; O.N. F. 9778, P.O. Mech. (C.) A. G. Carr; O.N. F. 24673, Acting Air-Mech., 1st Gr. (E.), W. G. Chapman; O.N. F. 3947 Air-Mech., 1st Gr., W. L. Clark; O.N. F. 673, C.P.O. Mech., 3rd Gr., W. Clayton; O.N. 237750 (Dev.), P.O. Mech. E. A. Coates; O.N. F. 20396, Air-Mech., 2nd Gr., J. Collett (killed); O.N. F. 894, P.O. Mech. W. L. Collyer; O.N. L. 8855, P.O., 1st Class. G. A. Constable; O.N. F. 19710, Leading Mech. T. G. Cook; O.N. F. 3726, Leading Mech. J. Cooper; O.N. F. 7719, C.P.O. Mech., 2nd Gr., A. E. Crespín; O.N. F. 2403, Air-Mech., 1st Gr., H. F. Crespín; O.N. F. 266, Leading Mech. H. W. Crisp; O.N. F. 2066, Leading Mech. C. A. Cross; O.N. F. 3671, Air-Mech., 1st Gr. (E.), A. H. Cuff; O.N. F. 667, C.P.O. Mech., 2nd Gr., A. H. Cummings; O.N. F. 13488, Air-Mech., 2nd Gr., A. M. Daniels; O.N. F. 2108, P.O. Mech. A. W. Deed; O.N. F. 8808, Air-Mech., 1st Gr. (C.), C. W. Deuchar; O.N. 170694 (Dev.) C.P.O. Mech. T. A. Dimon; O.N. 15210 (Dev.), P.O. Mech. L. Doyle; O.N. F. 12458, Leading Mech. R. Duckett; O.N. F. 217, C.P.O. Mech., 2nd Gr. (E.), F. G. Eckford; O.N. F. 1057, Leading Mech. (E.) F. J. Emerson; O.N. F. 13026, Leading Draughtsman T. W. Feasey; O.N. F. 9512, C.P.O. Mech., 3rd Gr., C. Folley; O.N. F. 5780, Acting Air-Mech., 1st Gr., R. Ford; O.N. F. 4655, P.O. Mech. (E.) S. T. Fowler; O.N. F. 17143, Leading A.C. W. Franklin; O.N. F. 3997, C.P.O. Mech., 3rd Gr., W. D. Frost; O.N. F. 7656, Air-Mech., 1st Gr., G. H. Frost; O.N. F. 378, P.O. Mech. (E.) E. J. Garner; O.N. F. 9102, C.P.O. Mech., 2nd Gr., W. S. Gilbert; O.N. F. 7778, Leading Mech. (C.) H. E. Goodrick; O.N. F. 11338, Air-Mech., 1st Gr. (E.), F. Grant; O.N. F. 18460, P.O. Mech. J. McL. Gray; O.N. F. 2947, Leading Mech. W. J. Gulliver; O.N. F. 10996, P.O. Mech. (C.) C. G. Hine; O.N. M. 14393 (Ch.), C.P.O. Mech., 3rd Gr. (E.), W. F. Inns; O.N. F. 10549, P.O. Mech. W. D. Jones; O.N. F. 12612, P.O. Mech. (C.) G. F. Kemp; O.N. 202087 (Ch.), C.P.O. Mech., 2nd Gr., A. H. Knight; O.N. 247120 (Ch.), Ch. Ship's Cook A. H. Knight.

O.N. F. 3359, C.P.O. Mech., 3rd Gr., A. Knowles; O.N. F. 5595, Leading Mech. (E.) A. C. Lane; O.N. F. 11477, Leading Mech. W. G. Lavender; O.N. J. 3300 Acting Air-Mech., 1st Gr., H. Leadbetter (Dev.); O.N. F. 6430, Leading Mech. C. J. Lofts; O.N. F. 5521, C.P.O. Mech., 3rd Gr., C. A. Longhurst; O.N. F. 29004, Leading Mech. J. H. Manser; O.N. F. 12604, P.O. Mech. R. J. Marfleet; O.N. 104578 (R.F.R.Po./A1268), C.P.O. J. Marra; O.N. J. 34195 (Po.), Acting Air-Mech., 1st Gr., J. E. Martin (killed); O.N. F. 319 P.O. Mech. (E.) E. W. Martin; O.N. 226447 (Ch.), A.B. J. W. Miller; O.N. F. 907, Acting Leading Mech. L. C. Moss; O.N. G. 11854 (Ch.), C.P.O. Mech., 2nd Gr., H. G. Mugridge; O.N. F. 18271, Leading Mech. J. A. V. Murfin; O.N. F. 8215, Leading Mech. H. Neville; O.N. F. 742, Air-Mech., 1st Gr. (E.), M. Nunn; O.N. A.A. 1415, C.P.O. E. S. Oak-Rhind, R.N.V.R.; O.N. F. 3331, C.P.O. Mech., 3rd Gr., E. C. Parker; O.N. F. 5141, Leading Mech. W. H. Pascoe; O.N. F. 10567, Acting Air-Mech., 1st Gr., F. F. Petersen; O.N. F. 145, C.P.O. Mech., 3rd Gr., H. L. Pitt; O.N. F. 393, C.P.O. Mech. 1st Gr., R. J. M. Platt, D.S.M.; O.N. F. 18405, P.O. Mech. G. E. Plumpton; O.N. F. 5636, C.P.O. Mech., 3rd Gr., T. W. Point; O.N. F. 3895, Air Mech., 1st Gr., P. A. Reeves; O.N. F. 5402, C.P.O. Mech., 3rd Gr. (E.) F. P. Revie; O.N. F. 5052, Leading Mech. A. E. Rosevear; O.N. F. 18854, Leading Mech. W. S. Russell; O.N. F. 10609, Acting P.O. Mech. S. E. O. Russell; O.N. F. 9657, Leading Mech. (E.) J. B. Sanders; O.N. F. 8173, Leading Mech. L. F. Short; O.N. F. 19780, P.O. Mech. (C.) F. J. Smart; O.N. F. 330, P.O. Mech. (E.) S. J. Smith; O.N. F. 3735, P.O. Mech. J. Smith; O.N. F. 11213, P.O. Mech. (C.) H. W. Smith; O.N. F. 14607, P.O. Mech. H. B. Smith; O.N. F. 9397, Leading Mech.

F. N. Squire; O.N. F. 4309, P.O. Mech. (C.) W. J. Squire; O.N. F. 210, P.O. Mech. (E.) S. Stilwell; O.N. F. 3344, P.O. Mech. (E.) C. Stimpson; O.N. F. 253, C.P.O. Mech., 2nd Gr., (E.), H. Tatem; O.N. F. 13564, Leading Mech. E. S. Temperton; O.N. F. 307, C.P.O. Mech., 3rd Gr., J. Thomas; O.N. F. 8907, Acting Air-Mech., 1st Gr. (E.), F. Thompson; O.N. 228367 (Ch.), Leading Mech. F. Thorn; O.N. F. 24996, Air-Mech., 1st Gr., P. J. L. Tigg; O.N. F. 7733, P.O. Mech. F. J. Tucker; O.N. M. 3933 (Ch.), C.P.O. Mech., 2nd Gr., (E.), S. Upton; O.N. F. 8128, C.P.O. Mech., 3rd Gr., J. G. W. Wicks; O.N. F. 4972, Leading Mech. A. W. Whistlecraft; O.N. F. 2824, P.O. Mech., 1st Gr. (E.), E. R. Whyte (killed); O.N. F. 689, C.P.O., 3rd Gr. (E.), M. W. Winterbottom; O.N. 341138 (Ch.), Ship's Steward R. J. Wyatt.

NOTE.—The ranks and ratings of officers and men given above are those which they held on December 31st, 1917.

Greek Honours for the R.N.A.S.

THE following decorations have been conferred by the King of the Hellenes on officers and men of the British Naval Forces for distinguished services rendered during the war.

Order of the Redeemer.—Officer.

Comdr. C. G. Chichester, R.N.

Major (temp. Lieut.-Col.) A. C. Barnby, R.M.L.I., Sqdn.

Comdr., R.N.A.S.

Chevalier.

Flight Lieut. S. H. Gaskell, R.N.A.S.

Acting Flight-Comdr. C. Gilmour, R.N.A.S.

Medal for Military Merit.

Warrt. Offr., 2nd Gr., A. H. Mitchell, R.N.A.S.; S.S.A. J. W. Bradshaw, O.N. M. 13468 (Ch.); Ldg. Mech. F. Coller, O.N. F. 2415; Ldg. Mech. A. Copp, O.N. F. 560; Ldg. Mech. H. M. Green, O.N. F. 7728; 2nd S.B.S. C. P. Hart, O.N. M. 3904 (Ch.); P.O. Mech. C. W. Loveridge, O.N. F. 3703; P.O. Mech. E. H. Purdy, O.N. F. 1494; Air Mech., 1st Gr., W. S. Stevens, O.N. F. 8986; P.O. R. White, O.N. F. 2402.

Two V.Cs. for the R.A.F.

It was announced by the Air Ministry on May 1st, that the King has been pleased to award the Victoria Cross to the following officers of the Royal Air Force, for services displaying outstanding bravery:—

Lieut. Alan Jerrard, Royal Air Force (formerly of the South Staffordshire Regiment).—When on an offensive patrol with two other officers he attacked five enemy aeroplanes and shot one down in flames, following it down to within one hundred feet of the ground. He then attacked an enemy aerodrome from a height of only fifty feet from the ground, and, engaging single-handed some 19 machines which were either landing or attempting to take off, succeeded in destroying one of them, which crashed on the aerodrome. A large number of machines then attacked him, and whilst thus fully occupied he observed that one of the pilots of his patrol was in difficulties. He went immediately to his assistance, regardless of his own personal safety, and destroyed a third enemy machine. Fresh enemy aeroplanes continued to rise from the aerodrome, which he attacked one after another, and only retreated, still engaged with five enemy machines, when ordered to do so by his patrol leader. Although apparently wounded, this very gallant officer turned repeatedly, and attacked single-handed the pursuing machines, until he was eventually overwhelmed by numbers and driven to the ground. Lieut. Jerrard had greatly distinguished himself on four previous occasions, within a period of twenty-three days, in destroying enemy machines, displaying bravery and ability of the very highest order.

2nd Lieut. Alan Arnett McLeod, Royal Air Force.—Whilst flying with his observer (Lieut. A. W. Hammond, M.C.), attacking hostile formations by bombs and machine-gun fire, he was assailed at a height of 5,000 ft. by eight enemy triplanes, which dived at him from all directions, firing from their front guns. By skilful manoeuvring he enabled his observer to fire bursts at each machine in turn, shooting three of them down out of control. By this time Lieut. McLeod had received five wounds, and whilst continuing the engagement a bullet penetrated his petrol tank and set the machine on fire. He then climbed out on to the left bottom plane, controlling his machine from the side of the fuselage, and by side-slipping steeply kept the flames to one side, thus enabling the observer to continue firing until the ground was reached. The observer had been wounded six times when the machine crashed in "No Man's Land," and 2nd Lieut. McLeod, notwithstanding his own wounds, dragged him away from the burning wreckage at great personal risk from heavy machine-gun fire from the enemy's lines. This very gallant pilot was again wounded by a bomb whilst

engaged in this act of rescue, but he persevered until he had placed Lieut. Hammond in comparative safety before falling himself from exhaustion and loss of blood.

D.C.Ms. for the R.F.C.

It was announced in a supplement to the *London Gazette*

on May 1st, that the King has been pleased to award the Distinguished Conduct Medal to the following for gallantry and distinguished service in the Field:—

21479 Ast Air-Mech. S. W. Egan, R.F.C.
20624 Corpl. M. Mather, R.F.C.



THE R.F.C. GRAMOPHONE FUND.

As announced last week, this Fund is closed, by reason of the immediate and generous support of our readers. A few amounts were received last week after we had gone to press, before the announcement of the closing of the subscription list was known. By consent of the donors these, however, may be used for extra records, &c., so that the gift to the hospital will be all the more welcome.

Amount already acknowledged, £41 11s.

Additional Subscriptions:—

British Caudron Co., Ltd., per A. W. M. Ramsay, from the management, insurance brokers, Office staff, A.I.D., Pilot and 'drome mechanics, and drawing office and leading foremen 106½

	s.
The British and Colonial Aeroplane Co., Ltd.	105
C. A. Vandervell and Co., per A. Goodwin ..	100
Messrs. A. Goodwin, Midgeley and Staff of C. A. Vandervell and Co.	50
British Emaillite Co., Ltd.	21
General Aeronautical Co., Ltd.	21
Claude Grahame-White	20
W.M.W.	5

1,254½

In addition, there is any further amount required to be drawn for from Sir Charles Wakefield.

From Germany to Switzerland.

LIEUT. D. B. GAYFORD, R.W. Surrey Regiment, att'd. R.F.C., who was a prisoner of war in Germany, has arrived at Interlaken, Switzerland, for internment.

Back from Germany.

It is announced that the following soldiers who were prisoners in Germany have arrived in Holland for internment:—

3022 T. H. Donald, R.F.C.
2104 E. Jones, R.F.C.
494 V. Judge, R.F.C.
470 N. V. Piper, R.F.C.

The Raid on Zeebrugge.

It is authoritatively stated that the channel at Zeebrugge is still effectively blocked, and there is reason to believe that, though the Germans have been and are making strenuous efforts to deal with the obstruction, they have had no success whatever so far.

The weather has not been good during the last week for air observation or for bombing operations by aircraft. There has been an easterly wind, which has at times strengthened to a gale. So long as this wind continues bombing attacks on Zeebrugge will be difficult; but as appears on p. 523, the lock gates were heavily bombed on the night of May 2.



(British Official.)

A daylight bombing squadron preparing for business on the western front in France. Note the Lilliputian "egg."

THE ENGLISH S.E.V.A. SINGLE-SEATER FIGHTER.

SCOUTING EXPERIMENTAL.

The following description and illustrations published in the German aviation journal, "Deutsche Luftfahrer Zeitschrift," appears to be an official German report—as it is arranged in a similar manner to other descriptions of captured British and Allied machines—on the S.E., and should, we think, be of interest.

THIS machine, which is built by Vickers Ltd., carries the number B 507, and in addition to the usual identification marks, a circle and the letter A in white. On the airscrew there is stamped S.E.V.A., from

0.46 m. The wings are not swept back. The dihedral angle of the wings, which are joined to centre sections, is 171° . In order to improve the view the lower wings are cut away near the body. The angle of

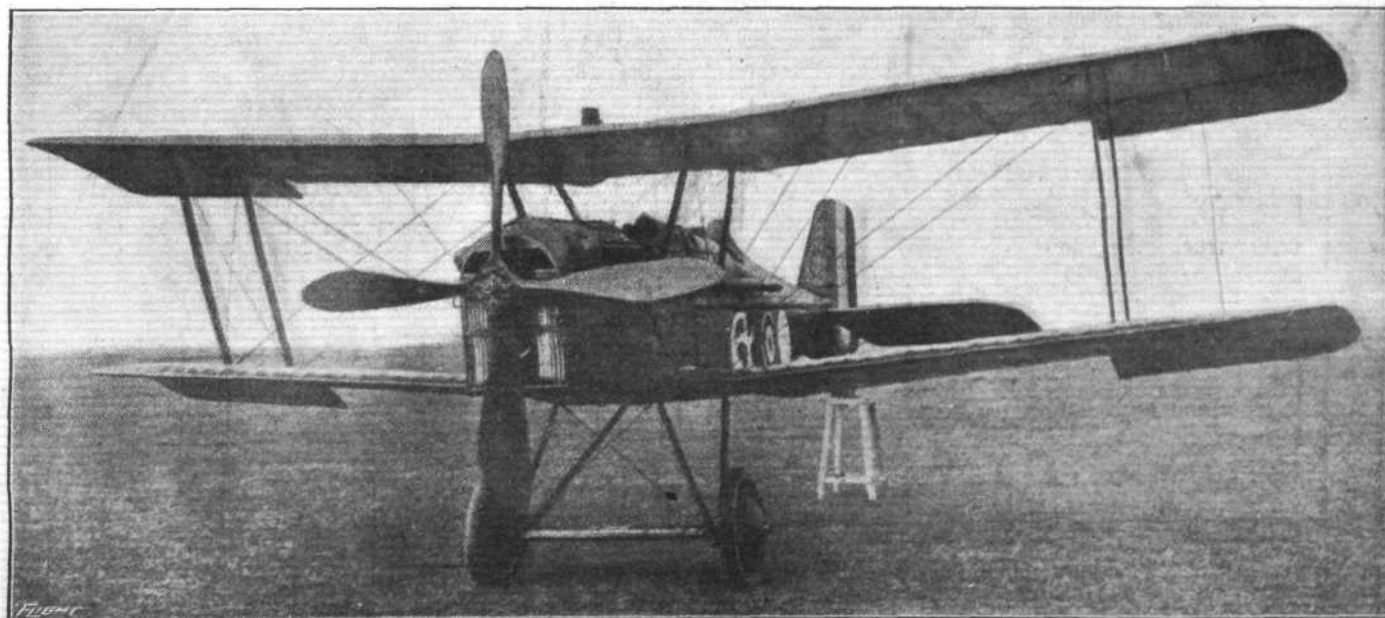


ENGLISH S.E.V.A. SINGLE-SEATER FIGHTER.—The front part of the body, with machine gun pointed upwards.

which it is to be assumed that the older machine of similar type, having a 150 h.p. Hispano engine without reduction gear, was designated as S.E.V.

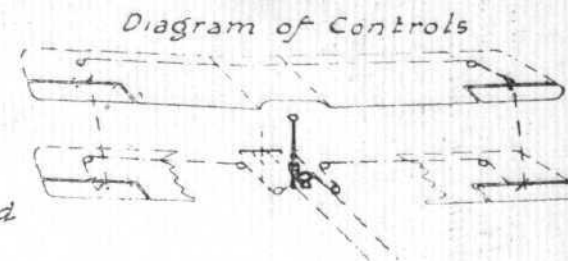
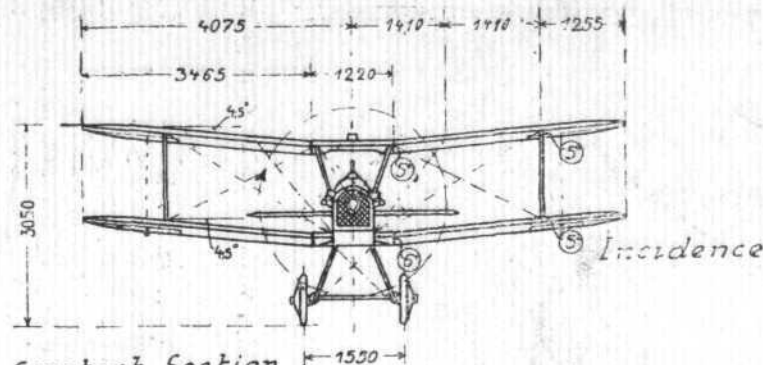
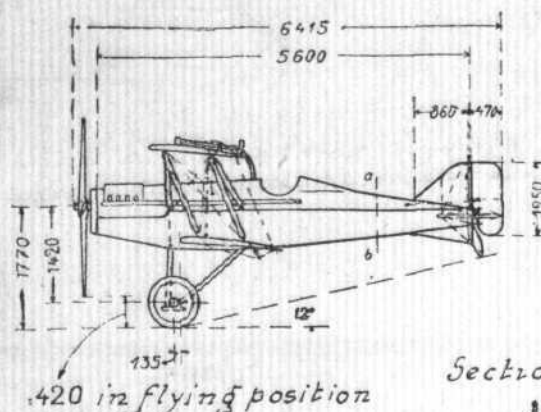
Both wings of the single strutted biplane, having an area of 22.8 sq. metres, have a span of 8.15 metres, and a chord of 1.52 metres. The stagger is

incidence of the top wing is 5° , while that of the bottom wing is 6° at the body and 5° at the struts. Both wing spars are of spruce, and are of I section, while the spars of the short roots, which run through the body, are of steel tubing, 45 mm. outside diameter and 1.75 mm. thick. The wing ribs are of the usual



Three-quarter front view of the S.E.

Engl. S.E.V.A.

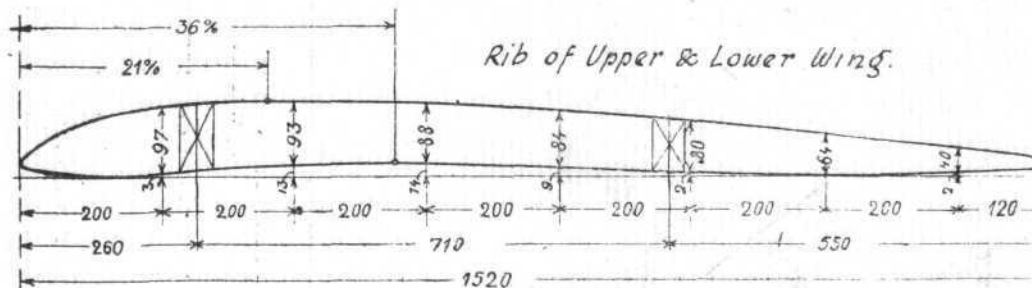
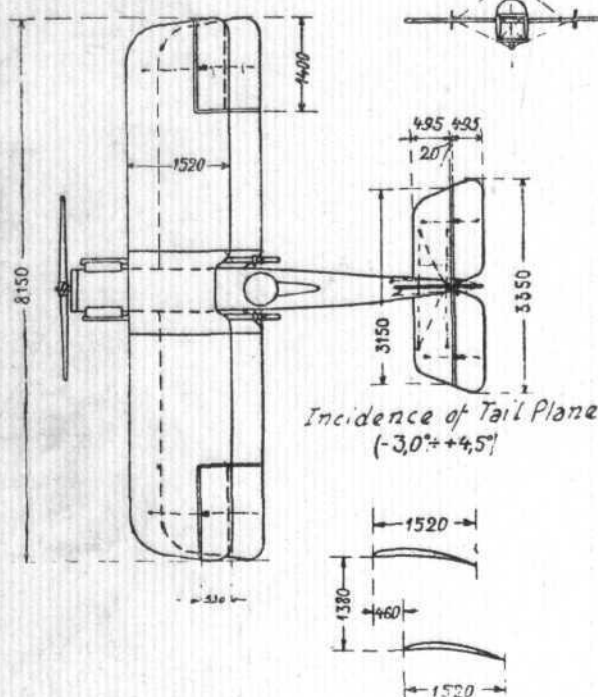


420 in flying position

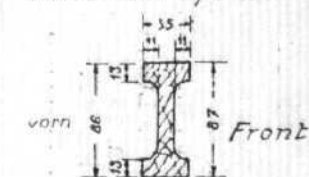
Section a b Greatest Section Area 0.224 m²

Stern-Post Height 250 m/m. Width 50 m/m.

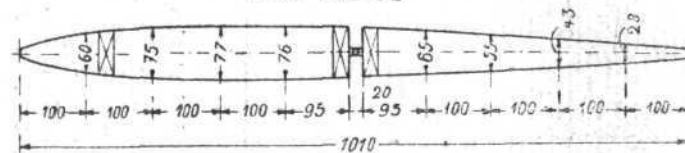
Body: Wire-braced girder.
Longerons: Wood
Body Struts: Wood
Bracing: Wire
Covering: Fabric



Wing Spar Section Material: Spruce

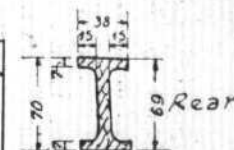


Tail Plane



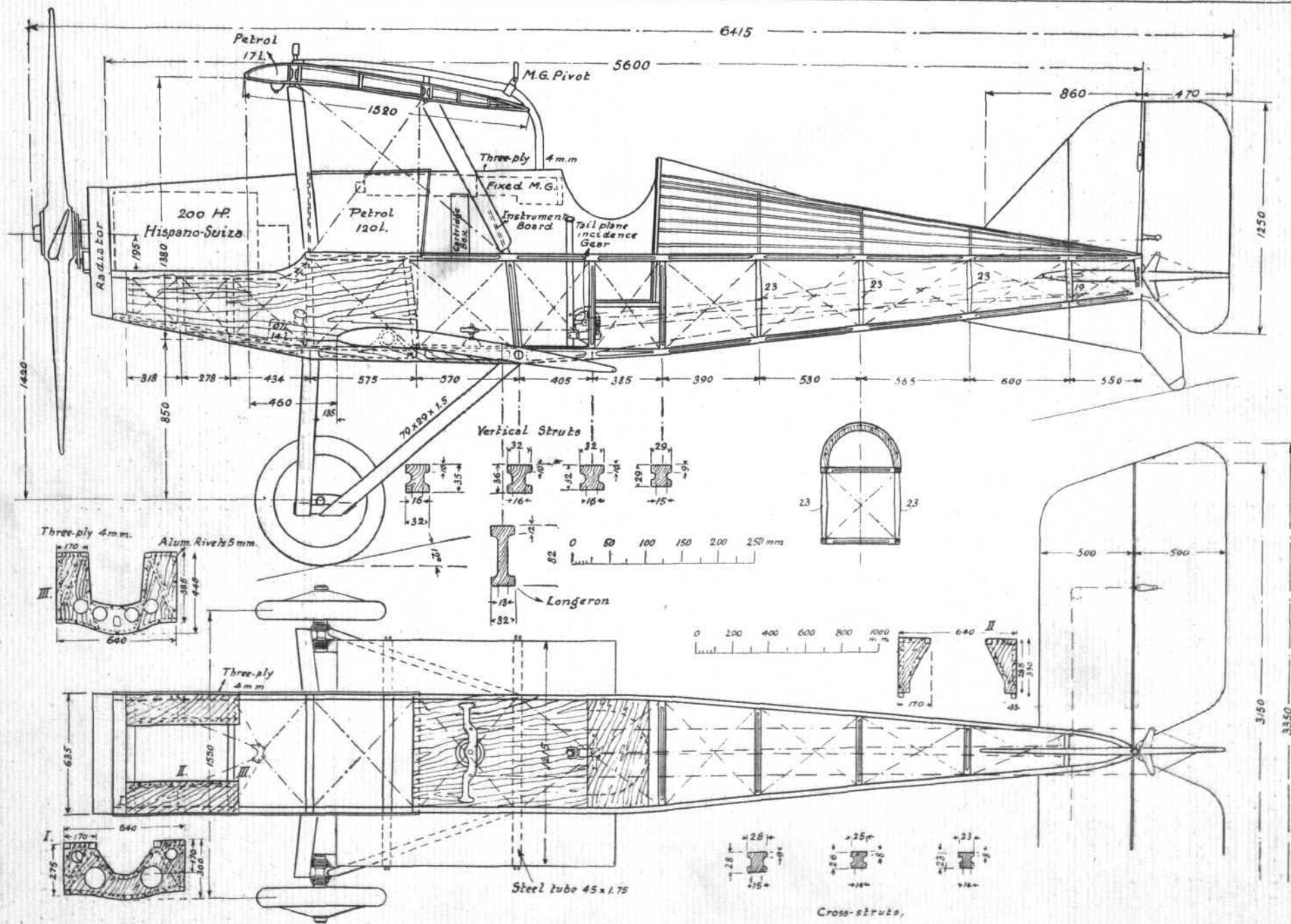
Area (Sq. m.)

Upper: 11.8 Lower: 11.0 = 22.8 with Ailerons. Ailerons 4x0.7 = 2.8
Tail Plane: 1.4, Elevator: 1.4
Fin: 0.6, Rudder: 0.5



Motor:	Air Screw:	Radiator:	Undercarriage:
200 H.P. Hispano-Suiza B.H.P. N = 200 H.P. n = 2000 revs. per min.	Wood; 4 bladed. Dia: 236 c/m. Blade width: 26 c/m. Pitch, n = 1500	in nose with adjustable shutters. Cooling water incl. engine & piping 3 l.c.l.	Struts, Shock Absorbers: Rubber. Travel: Free. Tyres 700x100 m/m. 79x29x18 Steel tube, without lining. Hub: width 180 m/m. Internal Dia.: 45 m/m.

The English S.E.V.A. single-seater fighter.

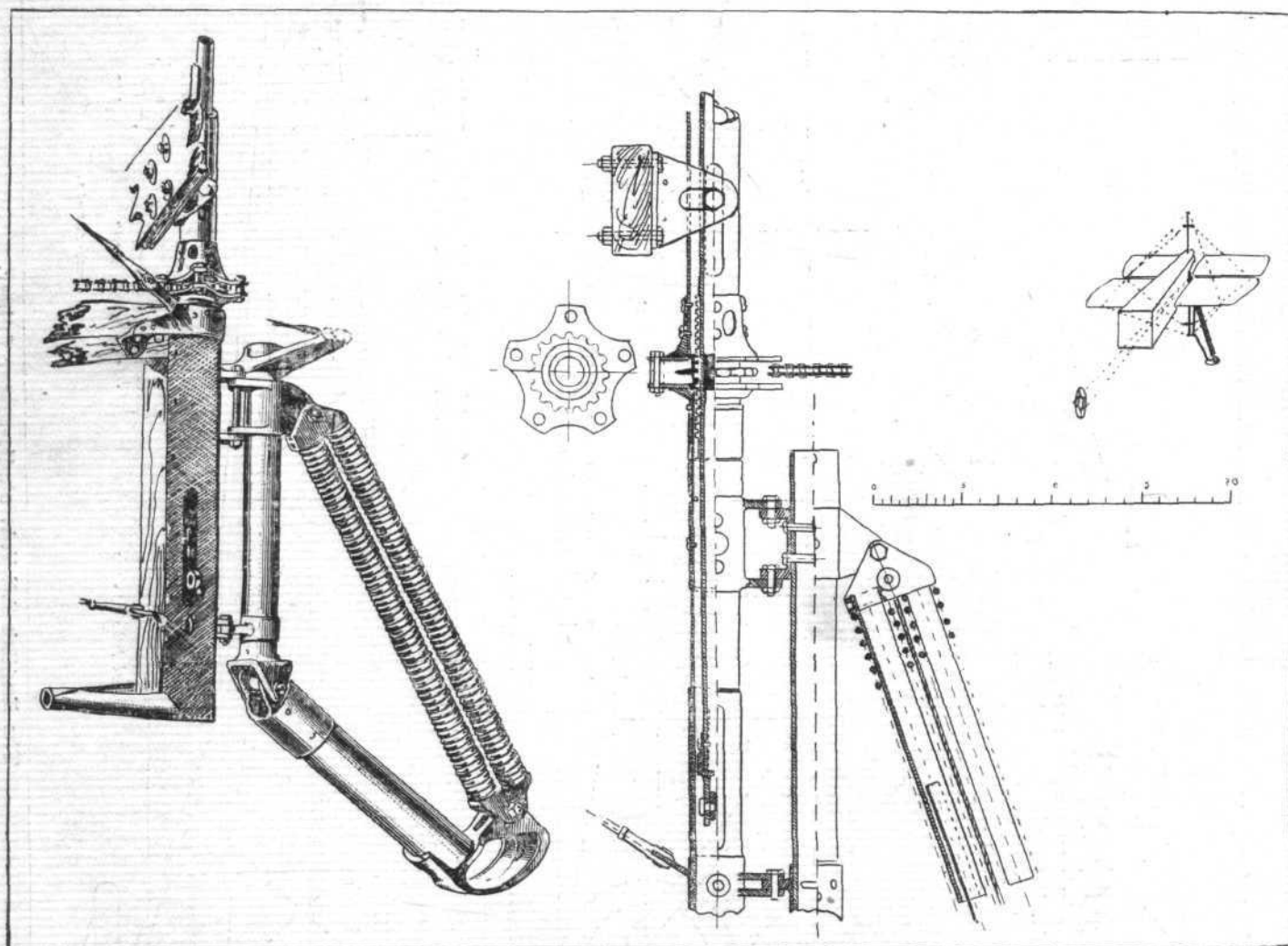


The English S.E.V.A. single-seater fighter.

type employed on English machines. Webs 1 cm. deep are glued and tacked into the grooves in the flanges, and the two webs are kept apart by vertical laths. There are no special compression struts between the main wing spars, the function of these being performed by leaving some of the ribs with a full strong web. The internal wing bracing is in the form of single stream line wires between the body and the struts. That of the overhanging portions is thick ended wire. The trailing edge of the wings is formed by a wood strip. Between every two ribs are two short false ribs running from the leading edge to the front spar. The wing fabric is stitched to the ribs and is painted a yellowish white underneath and reddish brown on top, as is also the body fabric. On the under side near the

Longerons and struts are of I-section with the exception of the vertical struts behind the pilot's seat, which are turned to a circular section.

The tail plane, which is cambered on both sides, is so attached to the body that its angle of incidence can be varied during flight from $+4.5^\circ$ to -3° . To this end its front spar is free to oscillate, while the rear spar and its bracing is attached to a tube which can be raised or lowered in the stern post of the body. This tube is secured, with a threaded portion, to a crown wheel mounted on, but free to turn, in the stern post. When the crown wheel is rotated, by means of a hand wheel and cable from the pilot's seat, it raises or lowers the tube, which carries with it the rear spar of the tail plane, thus altering the angle of incidence. The elevator, hinged to the tail



Tail plane incidence gear of the S.E.

trailing edge there are eyelets for equalising the pressure.

The centre section struts are steel tubes stream lined with wood fairings. The inter plane struts are of spruce, and are fitted at their ends with sheet steel shoes to which the incidence wires are anchored. The wing bracing is in the form of stream line wires. The lift wires are in duplicate, the landing wires single. Both spars of the upper plane are braced, in addition, by wires between the centre section struts and the outer struts. Non-balanced *ailerons* are hinged to the rear spars of both upper and lower wings.

The *fuselage*, an ordinary type of girder, has a turtle-back formed by vertical formers. Up to the pilot's seat it is covered with 4 mm. three-ply wood.

plane, takes part in this movement. The elevator cables are led through tail plane and body, whereby air resistance is reduced, but which necessitates, however, two right-angle bends in each cable. Cellon windows in wings and tail permit of inspecting the pulleys.

The undercarriage is of the usual type. The wheel axle, which runs right through, is housed between two auxiliary axles. The travel of the axle is not limited.

The construction of the tail skid is unusual. This member is swivelled from the stern post and connected to the rudder control cables. A brass shoe is sprung by means of two spiral springs, prevented from buckling by having inside them telescopic tubes.

The enclosed Wolseley-Hispano engine was, according to the makers' plate, given its brake test on



Three-quarter rear view of the S.E.

August 30th, 1917, and develops 206 h.p. at 2005 r.p.m. The air screw is geared down in the ratio 4:3.

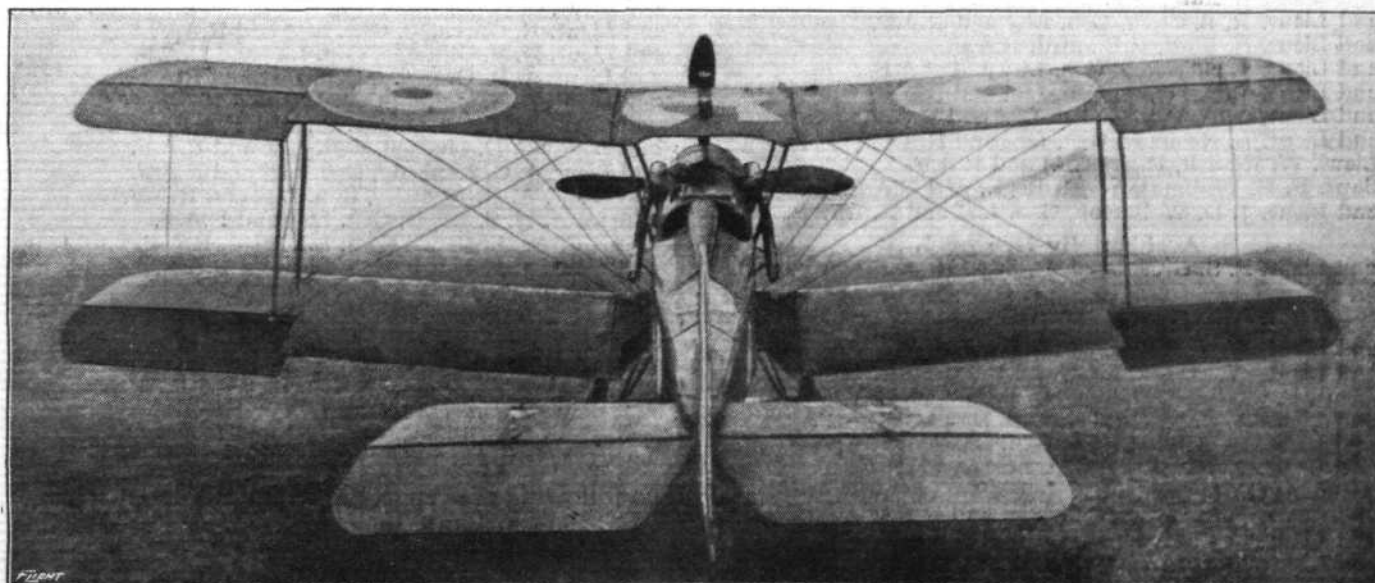
The exhaust gases are carried away on each side by exhaust pipes running to a point behind the pilot's seat. The engine is so mounted that it is easily accessible when the engine housing has been removed. The radiator forms the nose of the body. Shutters operated from the pilot's seat permit of covering up about half of the radiator. The main petrol tank is mounted behind the engine on the upper longerons. It has a capacity of 120 litres. A gravity petrol tank, holding 17 litres, is mounted between the leading edge and front spar of the centre section of the top plane. An oil tank of 14 litres capacity is built into the body behind the engine. The fuel is sufficient for a flight of two hours' duration at ground level.

In the pilot's cockpit are the following instruments, &c.:—On the right: A box for signal pistols, a switch for the starter, a change-over switch for the two magnetos, and a lever for adjusting the spiral springs regulating the elevator.

In the centre: Altimeter, hand pump, oil pressure gauge, compass, inclinometer, three-way cock for gravity and pressure petrol feeds, three-way cock for hand and motor air pumps, cooling water thermometer, petrol gauge on back of main petrol tank, manometer for air pressure. On the left: Gas lever, lever for regulating the mixture, cable for regulating the radiator shutters, rack for three signal cartridges. On the floor is mounted a hand pump for the hydraulic sighting of the machine gun, two boxes for drums for the movable machine gun, and the starter.

Weight Distribution.

	Kg.		Kg.
Motor	225.0	Tail plane incidence gear	1.9
Exhaust collector ..	12.0	Under-carriage ..	40.8
Starting gear ..	3.6	Tail skid	3.7
Radiator system ..	23.8	Controls	5.4
Cooling water ..	31.0	Wings, including bracing	112.2
Airscrew ..	26.6	Vertical and horizontal cables	21.0
Main petrol tank ..	17.8	Body equipment ..	14.0
Gravity tank ..	6.5		
Oil tank ..	3.9		
Engine accessories ..	6.4		
Body with seat and engine housing ..	151.0	Total	706.0



Rear view of the S.E.

In front of the pilot's seat is a wind screen of triplex glass. Behind the pilot's seat is a box, accessible from outside, running right through the body from side to side.

The fixed machine gun is mounted to the left of the pilot, inside the body covering. The cartridge belt is of metal. The firing of the gun is operated hydraulically by a control mechanism in front of the engine, driven by spur gearing on the propeller. The trigger is mounted on the control lever. Mounted

on a bent rail above the centre section of the upper plane is a Lewis machine gun, which can be pointed to fire upwards during flight. The weight of the machine empty was ascertained to be 706 kg.

The weight of the fuel, with full tanks, amounts to 111 kg., so that the total useful load may be put down as 250 kg., thus giving a total weight of 956 kg.

The wing loading is therefore $956 : 22.8 = 42$ kg. sq. metre, and the engine loading $956 : 200 = 4.78$ kg. h.p.

The Royal Aero Club of the United Kingdom

OFFICIAL NOTICES TO MEMBERS

THE FLYING SERVICES FUND

(Registered under the War Charities Act, 1916).

Honorary Treasurer :

The Right Hon. LORD KINNAIRD.

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Objects :

The Lords Commissioners of the Admiralty and the Army Council having signified their approval, THE ROYAL AERO CLUB has instituted and is administering this Fund for the benefit of Officers, Non-Commissioned Officers and Men of the Royal Air Forces who are incapacitated on active service, and for the widows and dependants of those who are killed.

Subscriptions.

	£	s.	d.
Total subscriptions received to April 30th, 1918	12,732	13	1
Staff and Workers of Gwynnes, Ltd. (Sixty-second contribution)	9 19 10

Total, May 7th, 1918 12,742 12 11

Offices: THE ROYAL AERO CLUB,
3, CLIFFORD STREET, LONDON, W. 1.

THE ROLL OF HONOUR.

The following casualties are announced by the Air Ministry:—

Killed.

2nd Lieut. J. A. R. Andrews, Linc. R., attd. R.A.F.
2nd Lieut. D. L. Bawlf, R.A.F.
2nd Lieut. R. H. Boyd, Gen. List and R.A.F.
2nd Lieut. O. A. Broomhall, Liverpool R. (T.F.) and R.A.F.
2nd Lieut. P. R. Cann, Gen. List and R.A.F.
2nd Lieut. D. H. A. Cheers, E. Surrey R. and R.A.F.
2nd Lieut. F. W. Cobb, Gen. List and R.A.F.
2nd Lieut. L. E. Collins, Gen. List and R.A.F.
2nd Lieut. A. S. Colquhoun, Gen. List and R.A.F.
2nd Lieut. J. Craig, Gen. List and R.A.F.
2nd Lieut. R. S. Craig, Gen. List and R.A.F.
2nd Lieut. N. Ford, R.E., attd. R.A.F.
2nd Lieut. J. B. Jewell, Gen. List and R.A.F.
2nd Lieut. J. G. Moore, Gen. List and R.A.F.
2nd Lieut. A. A. Payne, Gen. List and R.A.F.
2nd Lieut. L. Roebuck, Gen. List and R.A.F.
Lieut. W. Russell, R.E. (T.F.) and R.A.F.
Capt. F. E. Williams, Welsh Regt., and R.A.F.
2nd Lieut. J. D. Wollaston, Gen. List and R.A.F.

Accidentally Drowned.

2nd Lieut. F. S. Greatwood, R. Suss. R., and R.A.F.

Wounded.

Capt. F. E. Brown, M.C., R. Dub. Fus. and R.A.F.
2nd Lieut. W. J. Buttle, Bord. R., attd. R.A.F.
2nd Lieut. W. Dancy, R.G.A., S.R., and R.A.F.
Lieut. F. C. Dixon, Manch. R., T.F., attd. R.A.F.
2nd Lieut. A. C. R. Hawley, Gen. List and R.A.F.
2nd Lieut. R. B. T. Hedges, Gen. List and R.A.F.
2nd Lieut. V. K. Hilton, Gen. List and R.A.F.
Lieut. A. G. Horlock, E. Kent R., T.F., attd. R.A.F.
2nd Lieut. J. L. Horne, Gen. List and R.A.F.
2nd Lieut. H. C. Hyde, Leic. R., attd. R.A.F.
2nd Lieut. A. E. Lancashire, Gen. List and R.A.F.
2nd Lieut. R. T. Langdon, Sco. Rif., T.F., and R.A.F.
Lieut. R. M. C. MacFarlane, Gen. List and R.A.F.
2nd Lieut. W. N. Plenderleith, Gen. List and R.A.F.
2nd Lieut. K. W. D. Pope, Gen. List and R.A.F.

2nd Lieut. H. F. Procter, Gen. List and R.A.F.
2nd Lieut. J. A. Scrivener, Gen. List and R.A.F.
2nd Lieut. E. D. Stevens, Queen's Own Hussars, attd. R.A.F.
2nd Lieut. C. D. B. Stiles, Gen. List and R.A.F.

Accidentally Injured.

2nd Lieut. A. E. Roff, Gen. List and R.A.F.
2nd Lieut. W. M. Wessell, Welsh R. and R.A.F.

Missing.

2nd Lieut. G. G. Bartlett, Gen. List and R.A.F.
2nd Lieut. B. G. A. Bell, Gen. List and R.A.F.
2nd Lieut. R. A. Burnand, Lond. R., attd. R.A.F.
2nd Lieut. E. W. Christie, Gen. List and R.A.F.
2nd Lieut. C. B. Coleman, Oxf. and Bucks L.I., attd. R.A.F.
2nd Lieut. R. Critchley, Gen. List and R.A.F.
2nd Lieut. D. V. Gillespie, Gen. List and R.A.F.
2nd Lieut. J. R. Greasley, Gen. List and R.A.F.
2nd Lieut. A. S. Hanna, Gen. List and R.A.F.
2nd Lieut. R. Hilton, Manch. R., attd. R.A.F.
2nd Lieut. F. D. Hudson, Gen. List and R.A.F.
2nd Lieut. J. G. Kennedy, Gen. List and R.A.F.
2nd Lieut. A. R. Knowles, Gen. List and R.A.F.
2nd Lieut. H. S. Lewis, Gen. List and R.A.F.
Lieut. E. A. Matthews, Som. L.I., attd. R.A.F.
2nd Lieut. J. Meredith, Gen. List and R.A.F.
Lieut. S. T. Payne, Gen. List and R.A.F.
2nd Lieut. F. D. Shreeve, Gen. List and R.A.F.
Capt. S. P. Smith, A.S.C. (T.F.), and R.A.F.
Lieut. W. H. Sneath, R.A.F.
2nd Lieut. L. L. F. Towne, Gen. List and R.A.F.
2nd Lieut. S. R. Wells, Gen. List and R.A.F.
2nd Lieut. F. Williams, Gen. List and R.A.F.
Lieut. A. G. Wingate-Gray, Gen. List and R.A.F.

The following are reported by the Admiralty:—

Previously Missing, now reported Died of Wounds as Prisoner.

Flight Sub-Lieut. F. Booth, R.N.

Previously Missing, believed Drowned, now presumed Drowned.

Flight Sub-Lieut. L. H. G. Gillespie, R.N.

The following are reported by the War Office:—

Killed.

Lieut. G. W. Best, Aus. F.C.
Lieut. O. G. Lewis, Aus. F.C.
402799 Corpl. J. A. Cruickshank, R.F.C.
103996 2nd Air-Mech. J. H. Hurrell, R.F.C.
80674 3rd Air-Mech. A. Pierson, R.F.C.
53657 2nd Air-Mech. J. Short, R.F.C.
99631 2nd Air-Mech. J. Thomson, R.F.C.

Previously Missing, now reported Killed.

2nd Lieut. H. Butler, R.F.C.
Lieut. H. A. Chuter, Royal Fus., attd. R.F.C.
2nd Lieut. I. MacK. Dempster, R.F.C.
Capt. R. Erskine, R.F.C.
Lieut. R. S. Gaisford, R.F.A., attd. R.F.C.
2nd Lieut. P. F. Kent, R.F.C.
2nd Lieut. A. D. Lennox, R. Scot. F., attd. R.F.C.
Capt. H. G. E. Luchford, M.C., R.F.C.
Capt. A. E. McKay, R.F.C.
Lieut. W. S. Mansell, E. Surr., attd. R.F.C.
Lieut. L. W. B. Moore, R.F.A., attd. R.F.C.
2nd Lieut. A. R. Paul, R.F.C.
Lieut. C. W. Pearson, North'd Fus., attd. R.F.C.
2nd Lieut. A. B. Reade, R.F.C.
2nd Lieut. D. W. Ross, R.F.C.
2nd Lieut. T. Taylor, R.F.C.
2nd Lieut. T. Watson, R.F.C.

Previously Missing, now reported by the German Government Killed or Died of Wounds.

Capt. A. P. MacLean, Cent. Ont. Regt., attd. R.F.C.

Died of Wounds.

Lieut. N. Swarder, Brit. Col., attd. R.F.C.
723 E. B. Dewhurst, Aus. F.C.
55350 2nd Air-Mech. E. Hill, R.F.C.

Accidentally Killed.

Lieut. F. G. Lewtas, Brit. Col. Regt., attd. R.F.C.

Died.

80023 1st Air-Mech. W. Daniels, R.F.C.
104078 2nd Air-Mech. J. W. Hogg, R.F.C.
5838 Flight-Sergt. W. H. Jewers, R.F.C.
25391 2nd Air-Mech. C. Mallett, R.F.C.

Wounded.

2nd Lieut. J. P. G. Baachain, Aus. F.C.
Lieut. G. A. Barry, Que., attd. R.F.C.
Lieut. G. R. Brettingham-Moore, Aus. F.C.

Lieut. L. de S. Duke, Brit. Col., attd. R.F.C.
Lieut. L. Fryberg, Aus. F.C.
Lieut. O. H. Guess, Aus. F.C.
Capt. D. J. Nickle, Can. For. C., attd. R.F.C.
Lieut. G. A. Paul, Aus. F.C.
2nd Lieut. A. W. Rees, Aus. F.C.
64937 1st Air-Mech. H. Blair, R.F.C.
44259 2nd Air-Mech. L. T. G. Bone, R.F.C.
9707 1st Air-Mech. W. Broome, R.F.C.
112184 3rd Air-Mech. A. Bushell, R.F.C.
18230 1st Air-Mech. J. Connolly, R.F.C.
15212 Sergt. F. Doodson, R.F.C.
99623 2nd Air-Mech. G. Holling, R.F.C.
69940 3rd Air-Mech. S. Williams, R.F.C.

Previously Missing, now reported Wounded and Prisoner in German hands.

Lieut. E. M. Chant, Brit. Col. Regt., attd. R.F.C.

Missing.

2nd Lieut. W. C. Dennett, R.F.C.
Lieut. K. W. Junor, Can. M.G.C., attd. R.F.C.
Lieut. H. K. Love, Aus. F.C.
67775 Sergt. L. S. Long, R.F.C.

Previously Missing, now reported Prisoners in German hands.

2nd Lieut. A. C. Ball, Sher. For., attd. R.F.C.
2nd Lieut. H. K. Cassels, R.F.C.
2nd Lieut. A. F. G. Clarke, A.S.C., attd. R.F.C.
2nd Lieut. G. R. Crammond, Lan. Fus., attd. R.F.C.
Lieut. J. D. Currie, H.L.I. and R.F.C.
Lieut. R. E. Duke, R.F.C.
2nd Lieut. E. P. P. Edmonds, R.F.C.
2nd Lieut. G. D. Falkenberg, R.F.C.
2nd Lieut. W. M. R. Gray, R.F.C.
Capt. F. L. Luxmoore, R.F.C.
Lieut. A. W. Matson, R.F.C.
2nd Lieut. G. G. Newbury, R.F.C.
2nd Lieut. G. R. Norman, R.F.C.
2nd Lieut. R. B. Smith, R.F.C.
2nd Lieut. A. L. T. Taylor, R.F.C.
2nd Lieut. W. H. Taylor, R.F.C.
2nd Lieut. N. B. Wells, R.F.C.
2nd Lieut. F. Westing, R.F.C.
2nd Lieut. A. P. C. Wigan, R.F.C.
107299 1st Air-Mech. L. J. W. Bain, R.F.C.

Prisoner in German hands.

2nd Lieut. R. C. D. Oliver, R. Berks., attd. R.F.C.
Lieut. J. C. Thompson, Shrops. L.I., attd. R.F.C.



AIR FIGHTING IN APRIL.

FIVE HUNDRED AND EIGHTY-THREE aeroplanes were reported down on all the battle fronts in April, as is pointed out in the excellent monthly summary of the *Times*. All but one or two actually fell in that month. This is somewhat more than half the total for March, which, at 1,059, is the highest aggregate during the war, and most nearly compares with the 704 of September, 1917. Of the 583, the Allies claimed 470 and the enemy 113.

More than half the Allied "bag," 286 to be exact, fell to the guns of the British pilots, infantry, and anti-aircraft defences on the Western front, and against this 77 of our machines were reported as missing. Our pilots destroyed 171 German aeroplanes in fighting, and drove 91 down out of control. Twenty-three machines fell to gunfire (three coming down in our lines), and one large enemy bombing machine landed intact behind our lines. As a whole, the fighting was not so intense on the British front as in March, but there was one day when it came very near to what Sir Douglas Haig described as "the most severe so far experienced."

That was April 12th, when 40 German machines were destroyed by our pilots, 20 driven down out of control, and two shot down by the anti-aircraft guns—62 in all. The only occasion on which this total has been exceeded was March 24th, when 69 enemy machines fell to earth—45 destroyed and 22 driven down out of control, and two shot down by the gunners.

The French have 138 enemy machines to their credit on the Western front—69 destroyed, 59 driven down damaged, and 10 brought down by gunfire. Belgian airmen scored two victories over the enemy. On this front the Germans claim to have shot down 107 Allied machines.

British airmen on the Italian front again did extremely well. They destroyed 18 enemy machines, and drove three down out of control, while the gunners brought down one—22 in all, without loss to themselves. Since their arrival in Italy, in November, 1917, British pilots and gunners have destroyed 101 enemy machines at a cost of 10 aeroplanes. Italian airmen brought down 11 machines of the enemy.

The King at an R.A.F. Armament School.

It was announced in the *Court Circular* of May 2nd that the King, attended by Commander Sir Charles Cust, Bt., R.N., and the Earl of Cromer, paid a visit of inspection to the Royal Air Force Armament School at Uxbridge on the morning of that day. His Majesty was received on arrival by Colonel A. C. H. MacLean and staff. Brigadier-General J. G. Hearson, Director of Training, Royal Air Force, was also in attendance.

The Women's Royal Air Force.

It was announced on May 3rd that the Secretary of

State for the Royal Air Force has appointed the Hon. Violet Douglas-Pennant to be Commandant of the Women's Royal Air Force, her services having been lent for the purpose by the chairman of the National Health Insurance Joint Committee.

New Director of Aircraft Production.

It was announced on May 7th that the Minister of Munitions has appointed Sir Arthur Duckham, K.C.B., to superintend, as member of Munitions Council, the duties of aircraft production, in succession to Sir William Weir, on the latter's appointment as Secretary of State and President of the Air Council.

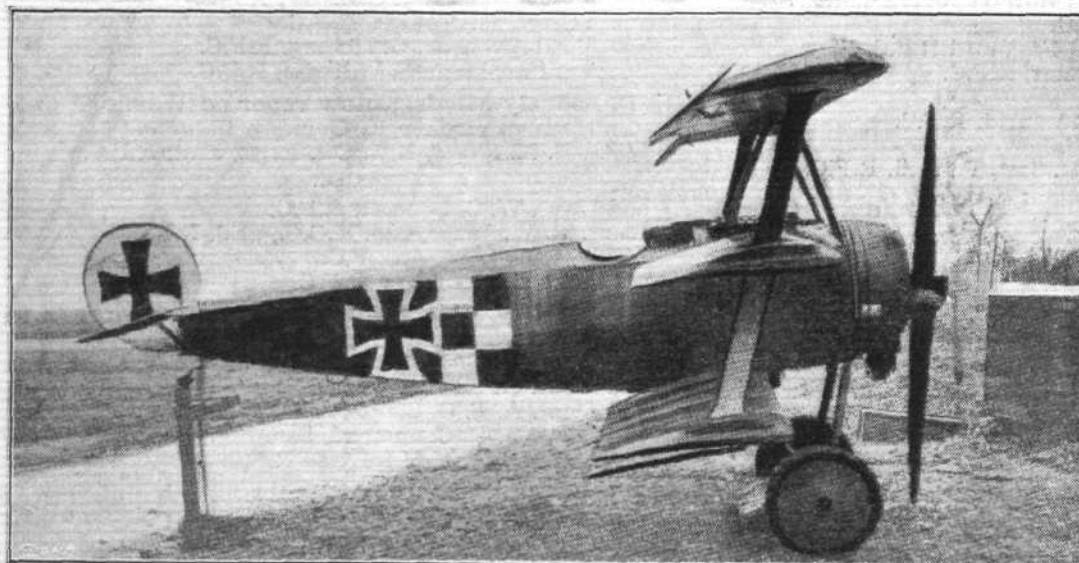
THE FOKKER TRIPLANE.

(Continued from page 476.)

FROM Fig. 1 (see page 474 in last week's issue) it will be seen that in the front portion of the body the strutting is so arranged that the usual diagonal wire bracing becomes superfluous, the tubular struts being arranged in a series of triangles which by them-

wing attachment, but these are supplementary rather than departures from the universally adopted scheme.

As we have already mentioned, the rectangular section of the main body of the Fokker triplane is partly streamlined in front by superstructures



Side view of the Fokker triplane.

selves render the structure rigid. As a consequence the anchorage tubes differ somewhat from those employed in the rear part of the body. Generally speaking they take the form of straight tubes welded over the angle formed by adjacent struts, and instead of lying in a transverse plane, as do the rear ones, they are in the same plane as the sides of the body. As for the attachment of the struts themselves to the longerons, this is practically the same as that employed in the rear part of the body, i.e., by butt-welded joints. Here and there one finds additional fittings for receiving chassis struts or

secured to the sides and top of the body. These fairings take the form of triangular sheets of thin three-ply wood, attached to the upright struts of the body by means of short distance pieces of spruce and by aluminium clips, as shown in Fig. 3. The middle spruce rail of these fairings, it will be seen, runs back slightly farther than the top and bottom ones, and its rear end is not attached to the body except in so far as it rests against one of the body struts. Apparently the tension of the fabric body covering is relied upon to keep it in place. Reference will be made to the armament of the Fokker triplane

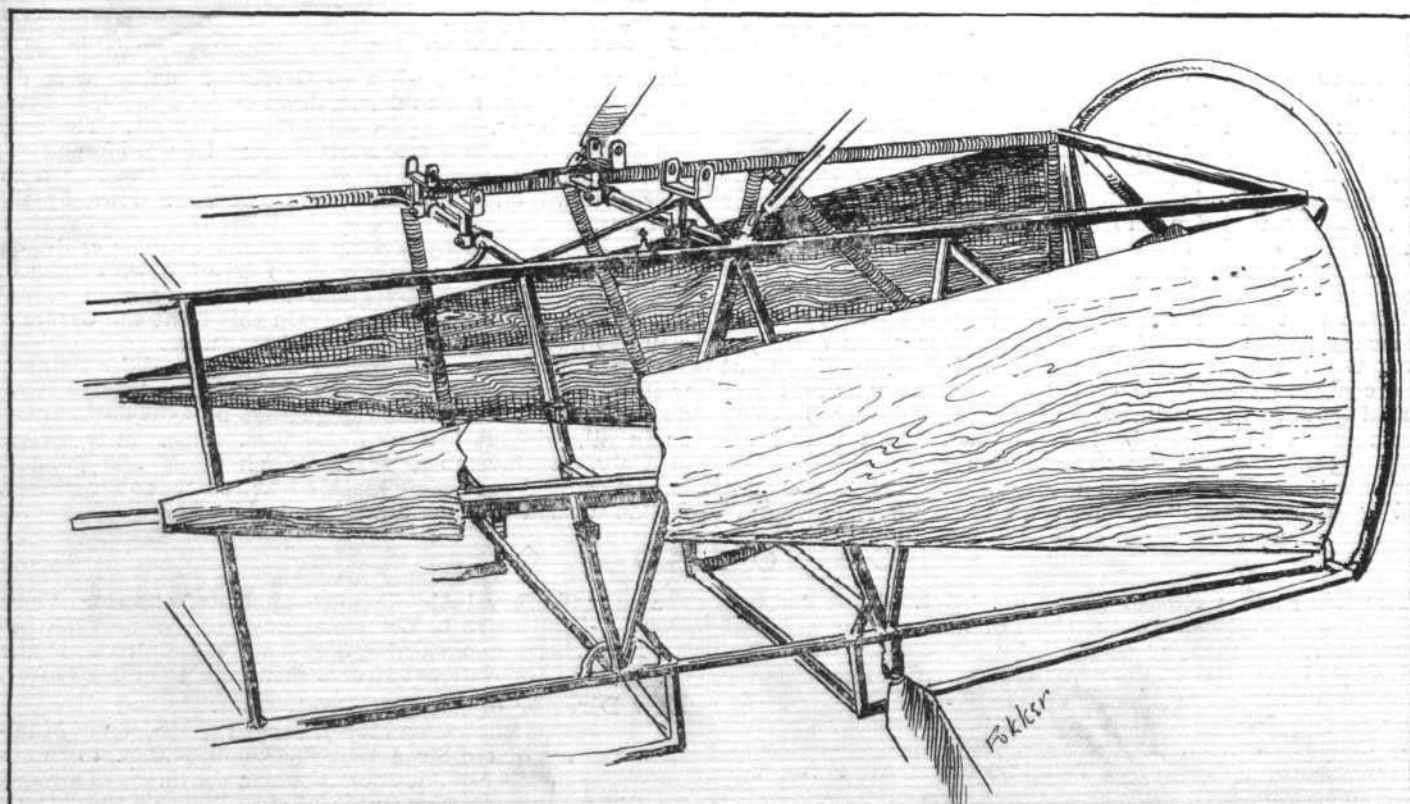


Fig. 3.—Sketch showing the three-ply fairings and their attachment on the Fokker triplane. The fork end brackets for the two machine guns should be noted.

later, but while dealing with Fig. 3, we would call attention to the mountings for the two machine guns, which this sketch shows. Each gun, it will be seen, is supported on two fork end brackets, the front ones of which are rigidly attached to one of the top cross struts of the body, while the rear ones are so designed as to allow of aligning the guns. Each of these supports is in the form of a fork end mounted on the end of a tubular pillar, which is in turn held in position at its lower end by a split collar on the transverse body strut. This collar may be shifted laterally along the horizontal strut and locked in position at any desired point, thus providing for the lateral alignment of the rear gun support. The vertical adjustment is effected by the vertical displacement of the pillar carrying the fork end, which is locked in position by the vertical part of the split collar or clip.

Having dealt with the general construction of the body, we next come to consider its internal fitting up. The pilot's cockpit, which appears to be of somewhat less generous proportions than those usually found

by four sliding collars, the upper two of which are split and fitted with a locking bolt, as shown in the inset, Fig. 4. This locking bolt is rather long, so as to make more accessible the wing nut which tightens up the split collar. The necessary adjustment is easily made from inside the body, both wing nuts being easily reached from the seat.

The controls, which are shown in the central sketch of Fig. 5, consist of a vertical tubular control lever mounted on a longitudinal rocking shaft, and of a tubular foot bar for the rudder. The details of the control gear will be readily followed in the sketch. A large collar, to the top and bottom of which are welded the anchorages of the elevator cables, is pivoted to the rocking shaft by a horizontal bolt and is free to be moved through a considerable angle in a longitudinal plane owing to being so much larger in diameter than the shaft. The latter, which is carried in bearings formed by clips gripping the lower cross struts, is free to oscillate laterally, and carries near its forward end two cranks placed at an angle and staggered in relation to one another. From these

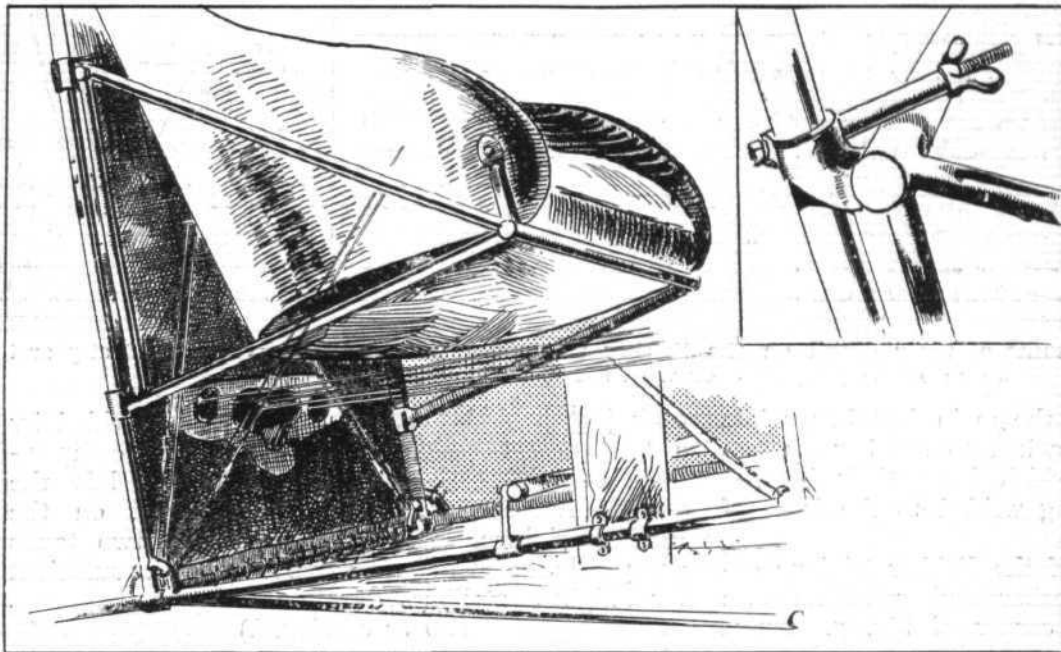


Fig. 4.—The pilot's seat of the Fokker triplane. By means of the split collar and bolt arrangement shown in the inset, the seat may be quickly raised or lowered to suit the pilot.

on German machines, gives a somewhat ascetic impression contrasted with the somehow cosy and comfortable cockpits of other machines of German origin. This may be partly accounted for by the fact that the body structure is steel tubing, but no doubt the chief reason is to be found in the inadequate upholstery of the seat, which is of the aluminium "bucket" type. The covering is some sort of pegamoid stuff, and looks on the whole "cheap and nasty." This appearance, by the way, is not confined to the seat only, but is noticeable throughout the machine. To finish, as we understand it, there is no pretence, and the workmanship, which is not, of course, by any means the same thing, although the two are frequently confused, even by those who ought to know better, is not by any means beyond reproach. On the whole we are inclined to think that the unfavourable impression left by an inspection of the Fokker triplane is due to bad finish and workmanship quite as much as if not more than to poor design. The pilot's seat is so mounted as to be capable of being easily adjusted in height. It is supported on a framework of steel tubes, as shown in Fig. 4. This framework is attached to the upright body struts

cranks cables pass over pulleys on the top spar to the ailerons.

At its upper end the control column carries a double-handled grip and the triggers for the machine guns, as well as the cut-out switch for the engine. The handle on the left is not, however, fixed in the usual manner, but serves, by being pivotted, for operating the engine throttle, *via* Bowden cables. Two triggers are provided by means of which either of the two machine guns can be brought into gear. On the front of the lever will be seen a bent steel rod which, on being pulled back, puts both machine guns into gear, thus firing them simultaneously. The connection is as usual by Bowden cables, and the interrupter gear is driven by a pinion engaging with the gear wheel that meshes with the magneto and oil pump drives. The gun triggers and other details of the control handle are shown in the inset in the bottom right-hand corner of Fig. 5.

The foot bar for the rudder is in the form of a steel tube pivotted around a vertical tube resting at its lower end on a bracket under the floor boards and secured at its upper, after being bent back slightly, to the deck of the body. The pilot's feet rest in loops

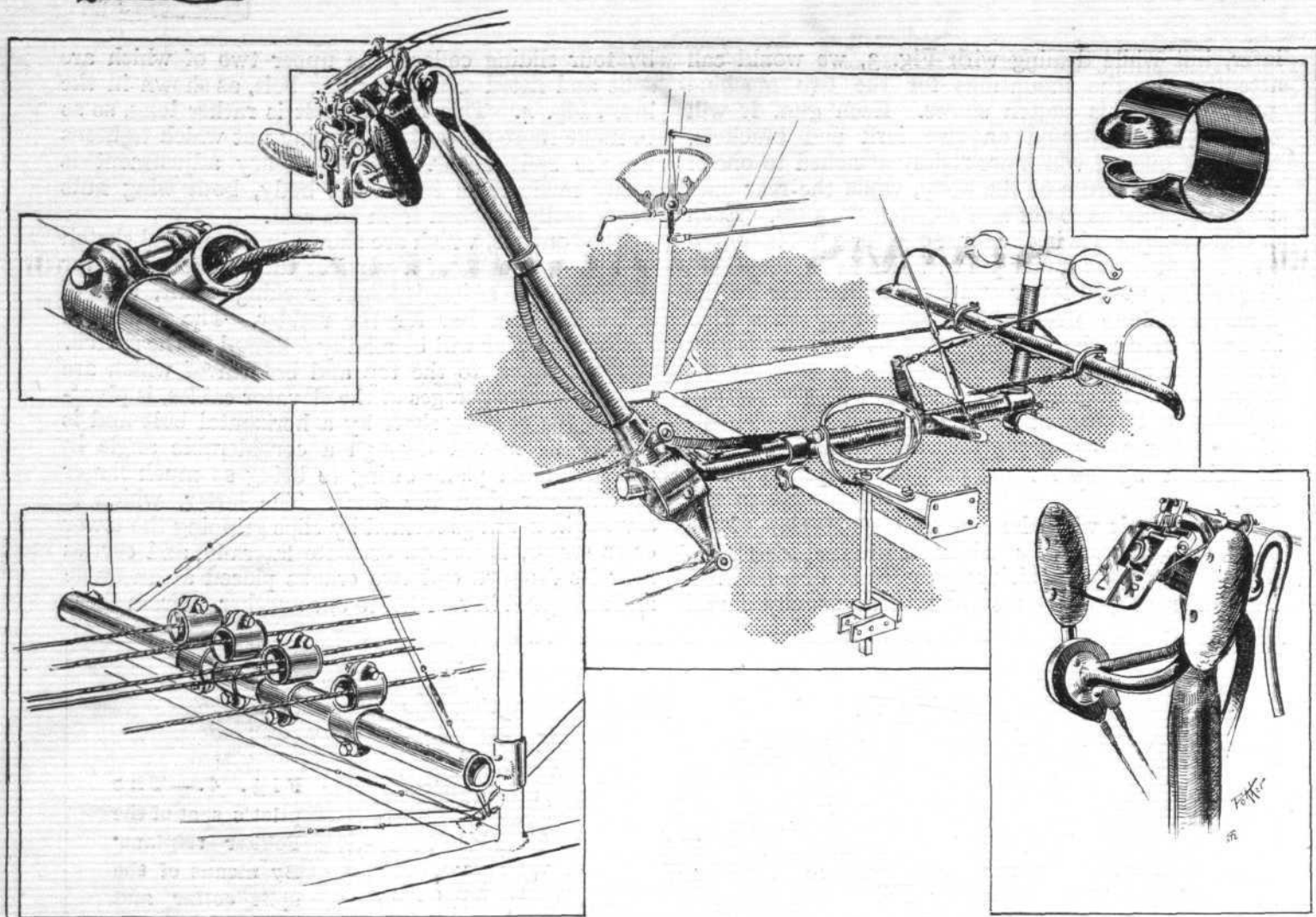


Fig. 5.—The controls and some of their detail on the Fokker triplane. The insets show a typical clip and some of the purposes for which it is employed.

of thin tubing welded to the main foot bar, while the rudder cables are attached to the bar by two stirrups, the bolts for which have their bearing in a short length of tubing welded to the front of the foot bar.

Throughout the body of the Fokker triplane extensive use is made of split collars similar to that shown in the upper right-hand corner of Fig. 5. Extra stiffness of the flange is provided by stamping this out to the shape of a shallow cup in which are the holes for the bolt locking the collar in position. Where, as frequently happens owing to the tubular construction, two of these collars have to be placed at right angles to one another, they are joined together by welding. This is the case, for instance, with the guides for the control cables running to the tail. These guides are shown in the bottom left-hand corner of Fig. 5, while yet another form of the clip, slightly different in detail but similar in principle, is shown on the left. This sketch represents the clip and guide tube for the *aileron* cable on its way from the cranks in the body to the pulleys on the spar of the top plane.

As shown at the Enemy Aircraft View Rooms, the Fokker triplane did not show any signs of having been fitted with an instrument board, and of such instruments as revs. counter, altimeter, air speed indicators and fuel indicators there was no trace. On the right-hand side of the pilot the cardan support for the compass was still in place, and the bracket supporting it is of the form shown in the sketch, Fig. 5. On the left was a quadrant and shaft, evidently for controlling the fuel and oil. One large

tank just behind the engine support is divided by a longitudinal bulkhead, the right-hand compartment containing the oil and that on the left the petrol. According to the official report on the Fokker triplane, the capacities of the two tanks are 4 gallons and 16 gallons respectively, or sufficient for a flight of 2½ hours' duration.

(To be continued.)

The Aeronautical Production Department.

REPLYING to a question by Mr. George Terrell in the House of Commons on May 2nd, Mr. Kellaway gave a list of the principal departments of the Ministry of Munitions, in which the following were mentioned:—

Finance Group.

Department:	Head of Department.
Aircraft and Explosive Finance,	
Controller:—	Sir Philip Henriques, K.B.E.

Air Group.

Aircraft Production	Director-General	Vacant—consequent upon the appointment of Sir William Weir as Air Minister
	Assistant Director-General	Sir Henry Fowler, K.B.E.
Supply (Aircraft Production)	Controller	Brig.-Gen. W. Alexander D.S.O.
Technical (Aircraft Production)	Controller	Lieut.-Col. J. G. Weir, C.M.G.
Inspection Aircraft Production	Director	Lieut.-Col. R. K. Bagnall-Wild.
American Assembly (Aircraft Production)	Controller	Mr. Alexander Duckham.

THE MODERN AEROPLANE.

By F. S. BARNWELL, Captain, R.F.C.

(Continued from page 480.)

The "Vees" are generally of circular section steel tube made up to a torpedo or "fair" shaped section by the addition of hollowed out wooden nose and tail pieces—the whole being fastened together by a binding of glued fabric strip. In some under carriages the "Vees" are of steel tube rolled to a "fair" shape itself. For the same strength, the wood-faired circular section tube Vee is probably *lighter*, whilst the fair-shaped steel tube Vee offers the lower drag.

A "fairing" of light sheet aluminium is usually built round the cross tubes and axle to reduce drag. This must have a slot or trough right along its top surface to allow of the vertical movement of the axle, so the drag with it fitted is not much less than would be that of these three tubes in

I think, on the old 80 h.p. Blériot monoplane. A point for it is that it has a great *braking* effect, because the further forward a tail skid is, the *greater* is the part of the total weight borne by it. The same can be said, of course, for steerable skid (a). But this very fact of increased load on the tail skid, means that the skid itself must be stronger and heavier and that great care must be taken in its attachments to the body, or the body itself may suffer.

For my own part I like skid (d), for I doubt if the extra weight and complication of a steerable skid are quite justified. For taxiing, the air screw must be running, and driving a strong current of air past the rudder, which is therefore competent to steer the machine. Of course, when taxiing slowly, it is easier to turn with a steerable skid, but the point is that it *can* be done without it, so it is questionable if the simpler, stronger and lighter non-steerable skid is not preferable on the whole.

The only members of the aeroplane left for us to consider in detail now are the stabilising and controlling surfaces (Fig. 11). In practically all modern aeroplanes these consist of ailerons, or wing flaps, for lateral control, fixed fin for directional stability, rudder for directional control, tail plane for longitudinal stability, elevator flap (or flaps) for longitudinal control. It is as well at this point to consider what we mean by stability, and the approximate reasons for possession or lack of this quality. By a stable aeroplane we mean an aeroplane with an innate tendency to preserve the same attitude to its flight path, so long as its controlling surfaces are left in their neutral positions. If any external disturbing force cause a change of this attitude, making the aeroplane pitch, or roll, or yaw, or perform some weird action compound of these, so soon as this force ceases, the aeroplane, if stable, will revert more or less quickly to its original condition of steady flight at its normal attitude to its flight path.

We consider stability as of three forms: longitudinal stability, which prevents "pitching" or rotation about the transverse axis through the centre of gravity; lateral stability, which prevents "rolling" or rotation about the fore and aft axis; directional stability, which prevents "yawing" or rotation about the vertical axis.

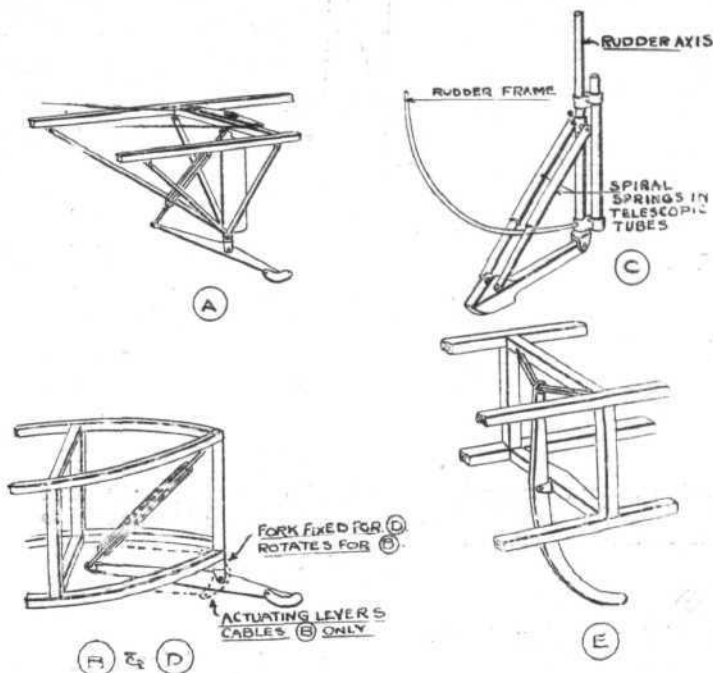


FIG. 10.

TYPES OF TAIL SKID

a row uncovered; it also adds weight; so it is a moot point whether this axle fairing is worth it. Of course, if it be feasible to fit a closing plate along the top of the axle, so that the gap in the top surface of the fairing is closed by it when the axle is down, the drag is considerably reduced. It is quite feasible to fit such a plate on a divided type axle, for such axle is positively prevented from rotating by its hinge anchorages, but with the plain continuous tube axle there is danger of the axle being rotated by wheel friction, and if this happens, the closing plate and fairing will probably be damaged. The ideal fairing would be an elastic sleeve slipped over the three tubes, but it is almost impossible to get such a sleeve sufficiently elastic and yet durable and oil proof.

The tail skid (Fig. 10) forms the third point of support for the aeroplane when on the ground. Tail skids are divided into two classes, steerable and non-steerable. The illustration shows three types of steerable: (a) the "B.E.," an entirely independent type; (b) a stern post type; (c) a rudder attached type. (a) Is the heaviest and offers the greatest drag, however it should not, in being damaged itself, damage any other part; (b) is lighter and of lower drag; (c) is the neatest of all, but it is regarded with a certain amount of horror, because of its direct attachment to the rudder, with the consequent fear of jamming it. It is the best mechanically because the springs are compressive and not tensile, hence the reaction on the fulcrum is very small. In the tensile types (a) and (b) the reaction on the fulcrum is the sum of the ground push plus the pull of the shock absorber. Personally, I think that type (c), if its attachments be properly designed and shock absorbers fitted into the rudder-control wires, should be quite sound, and its low weight and drag are valuable assets.

(d) and (e) are types of non-steerable skids. (d) is the form generally used on light single seaters. It is very simple, offers a minimum of drag and is very strong for its weight.

(e) is a type not often seen now. It was used originally,

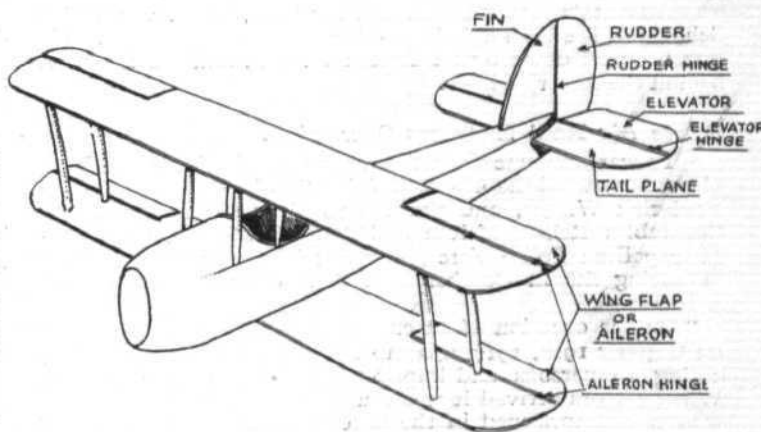


DIAGRAM SHOWING
STABILISING &
CONTROLLING SURFACES.

FIG. 11.

TAIL PLANE	FOR LONGITUDINAL STABILITY.
ELEVATORS	" " CONTROL.
FIN	" " DIRECTIONAL STABILITY.
RUDDER	" " CONTROL.
WING FLAPS	" LATERAL CONTROL.

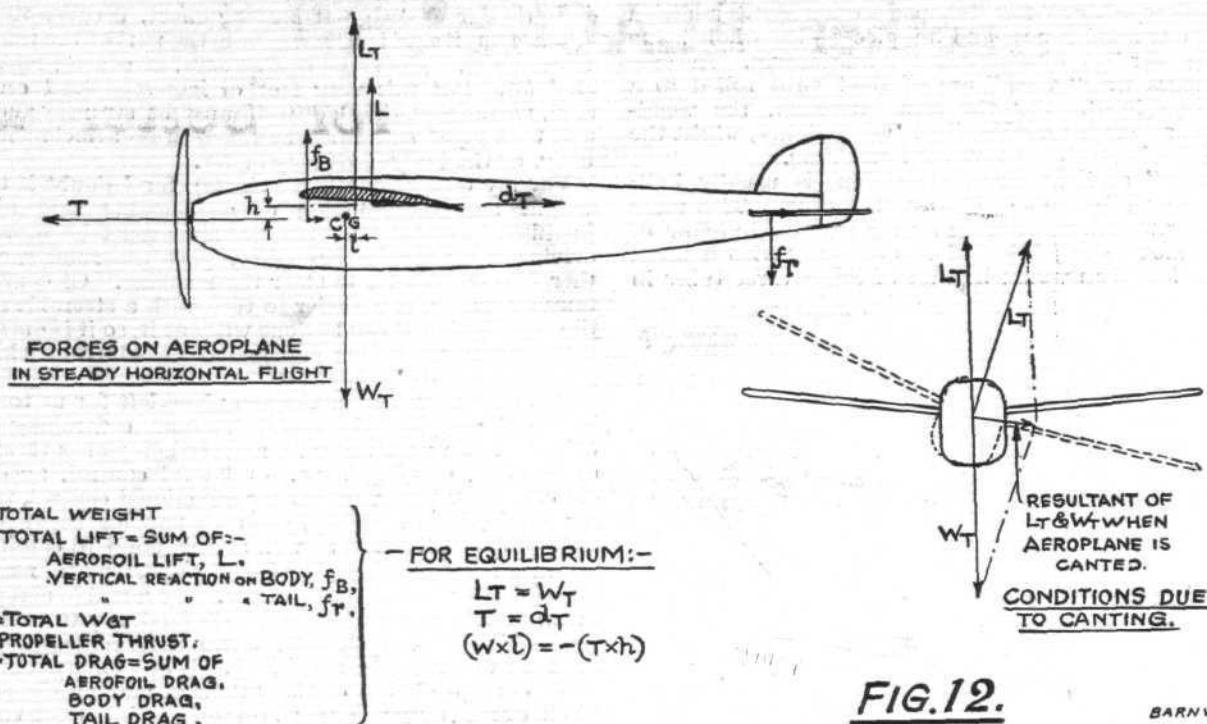
BARNWELL.

The stability of an aeroplane is a very complicated problem, and not one of the three forms just quoted can safely be considered entirely by itself, as they are all more or less inter-dependent, lateral and directional are particularly so. But I shall only attempt to deal shortly with the means of attaining each form and shall, therefore, for simplicity, consider them separately. The first thing we must get into our minds clearly is that an aeroplane is a machine entirely immersed in air, and that its average density is so much greater than that of air that the machine is in nowise supported by displacement, as is a ship or a submarine or

balloon. An aeroplane depends entirely, for its ability to sustain itself and to alter its direction or attitude, upon its speed relative to the air.

Consider an elementary aeroplane flying in a straight line at a constant speed and attitude to its flight path (Fig. 12).

the tail, the drag of the body, and the air screw thrust. Now these forces must all be balanced, total lift must be equal to weight, and air-screw thrust equal to total drag; further, if, as it is most probable, the line of thrust is not coincident with the line of total drag, then the line of total lift must lie at



The vertical forces acting on such a machine are the lift of the aerofoils, the vertical force on the tail, the vertical force on the body, and the total weight; the horizontal forces acting on it are the drag of the aerofoils, the drag of

such a distance away from the total centre of gravity that the lift-weight couple will be equal to and of opposite sign to the thrust-drag couple.

(To be concluded.)

Austria's Crack Aviator Killed.

AUSTRIA'S most famous fighting pilot, Lieut. von Hiller Schonaich, has been killed in action on the Italian front. He was brought down by an Italian airman, and his body fell behind the Austrian lines.

Brave Air Raid Rescuers Rewarded.

It was announced on Saturday that the King has been pleased to award the Albert Medal to Sub-Divisional Inspector Frederick Wright, and the King's Police Medal to Police Constables Robert Melton and Jesse Christmas, all of the Metropolitan Police Force, in recognition of their gallantry in saving life in October last. The circumstances are as follows:—

"On the occasion of an enemy air raid which took place on October 19th, 1917, a bomb fell on two adjoining houses, killing 10 persons and imprisoning 18 under the wreckage. When helpers arrived it was found that some of the persons who were imprisoned in the basement of one of the houses were alive, but the work of rescue was exceeding dangerous, for escaping gas in the basement became ignited and set fire to the debris above. Inspector Wright, with an axe, made a small opening in the floor over the basement, which was in a slanting and tottering condition, the joists which supported it being broken, and through this opening, though with much difficulty, 13 persons were rescued.

"It was then ascertained that two children were left in the basement, and Inspector Wright, with Police Constables Robert Melton and Jesse Christmas, dropped into the basement through the opening and searched for the children under very dangerous conditions. In addition to the fumes from the escaping gas, which were suffocating, and the fire raging above, there was a possibility of a further movement of wreckage, which might have proved fatal to all below. The space was so confined that they were barely able to reach the back of the premises. The children were found to be dead.

"Inspector Wright, on reaching the open air, collapsed, overcome by the fumes, and by his exertions; but, after medical care, he recovered sufficiently to be sent home. He returned to the scene of the disaster shortly after, and continued his work of rescue throughout the night."

Land for the Air Force.

AN Order in Council has been made applying to the President of the Air Council with some modifications certain statutes which confer on the military authorities power to acquire, hold and manage land for the services under their control. The statutes dealt with include the Defence Acts, 1842, 1854, 1859 and 1860, the Ordnance Board Transfer Act, 1855, the Militia (Lands and Buildings) Act, 1873, and the Military Lands Act, 1892. The Order may be cited as the Air Force (Application of Enactments) (No. 1) Order, 1918.

Control of Timber.

REPLYING in the House of Commons on May 2nd to Mr. Herbert Samuel who asked what action had been taken with respect to the recommendations of the Select Committee on National Expenditure for the session of 1917, Mr. Bonar Law gave the following information:—

Board of Trade.

Recommendation.

Paragraphs 63-64. — Operations of Timber Control Board. Arrangements for consolidated purchase should be framed in consultation with the Admiralty and Air Ministry.

Action Taken.

Arrangements have been made with the Admiralty, the Air Ministry, and other Departments concerned, and are now in operation by which the Timber Supply Department is supplying all timber for direct Government requirements except certain special kinds of timber required by the Admiralty and Air Ministry, and the question of taking over the supply of these is now under consideration. By the Timber Order, 1918, dated 25th April, all transactions relative to timber abroad by persons in this country are prohibited, except with the permission of the Controller of Timber Supplies.

A Successful Caproni Raid.

It became known in Rome on May 6th that squadrons of Italian Caproni had dropped over nine tons of high explosives on the hydro-electric plant at Cavendine, ten kilometres from Trent, completely wrecking the plant. This is important, as the plant was used for the electric railway leading to the Italian positions at Tonale, besides furnishing power and light to the Lower Trentino.



AIRISMS FROM THE FOUR WINDS.

MORE marks on the Rhine for our bombers, against the time when we really begin our campaign against the "fortified" cities in the land of the Hun, have been considerably supplied by the enemy in the three newly-named bridges which span this great German artery. That they are considered of high military importance is emphasised by the Kaiser in his greeting to Little Willie upon his decision to name the bridge at Engers, now building, after his charming heir. Says the All Highest:—

"It is a great pleasure to me to tell you that I have to-day given orders that the Rhine railway bridge near Engers which is being built in great times, and is to render important services in the country's defence, shall be called the Crown Prince Wilhelm Bridge. The Administration of the Prussian State Railways, which made the proposal to me, desires thereby gratefully to perpetuate your name as an army leader."

In the same spirit the Kaiser has conferred similar honours on Field-Marshal von Hindenburg and General von Ludendorff, by having the Rhine bridge near Rudesheim called the Field-Marshal General von Hindenburg Bridge, and the Rhine bridge near Remagen the "Quartermaster-General of Infantry Ludendorff Bridge."

ENGERS bridge could be taken in a Coblenz stunt, as it is a matter of 6 miles above that city, and will connect the railway running along the left bank of the Rhine with the lines in Nassau, and form another link with the railways to Belgium and Luxemburg.

THAT was a sad business the other day about the A.M. who filled the oil tank up with best dope, thinking it was Castrol R. He was mildly surprised when the indignant engine gave up with a horrid clank, sweating golden drops from every pore, and smelling like a country sweet shop. We can't report what his C.O. said, because all those kinds of expressions are the monopoly of the technical editor, and are strictly confined to the "Answers to Correspondents" section.

FIVE years and a half is, according to Mr. Havelock Wilson, President of the Seamen and Firemen's Union, at the moment the period during which British seamen will decline to have anything to do with the transport of goods to or from Germany after the war. This by way of retaliation for the 15,000 murders since August, 1914, of members of the Mercantile Marine.

It's a pity we cannot add on a few years for the pirates' similar tactics *via* the air. Fortunately, we are able to strike back at the Hun towns, whereas the seamen are debarred from getting their return blows in upon what is not.

FACTS and figures of the air-strafting at the front speak for themselves day by day. A sidelight upon how the Germans regard our Flying Services' work is let in by the *Frankfurter Zeitung* during a recent article upon the late Baron von Richthofen. This German paper writes:—

"Superiority in the air has been the great boast and the great hope of our enemies since 1916. They then attained superiority in the air in the numbers of their aeroplanes, and they have continually increased it. They have always flown up in the thickest swarms, and fallen upon us to win in the air the victory which they hardly any longer believed attainable on the ground. Our little Germany has not been able to keep pace with this totality of the greatest and richest countries of the world. Therefore, we shall never reach the number of their aeroplanes, whether American help increases it still more or leaves them further in the lurch."

ANOTHER milestone in aviation. According to a message from Rome as the result of an agreement recently arrived at between the British and Italian Governments, it has been decided to establish the post of Air Attaché with the respective Embassies in London and Rome. The new Italian Attaché, like his military and naval colleagues, will represent Italy with the British Government in all questions concerning aeronautic organisation. The first occupant of the newly-created post is Commandant Chevalier Teodoro Debonis.

AN opulent friend of ours connected with the aircraft industry, whose hobby it is to try and average thirty miles an hour through London traffic with a great aluminium projectile of a car (it is his pride that he has never even scraped a wing), recently bought him a horse. At the same time he blossomed out into breeches of aggressive contour, and a hunting crop of manifest Bond Street extraction.

For some weeks after he sat down with exaggerated precaution, and we all maintained a heart-breaking discretion, until someone asked him bluntly how he was getting on with his new one-lunger (this was a gross slander, for it was really a mettlesome and most expensive beast). He declined to be drawn to any great extent, but we gathered that he was hoisted on to the quadruped (which pranced corkily during the process) by a contemptuous groom very early in the Row each morning, that it showed splendid acceleration, but the brake linings were badly worn. This went on for some little time, but lately we heard the unmistakable hollow mutter of his engine as he slipped by us in the Strand, inveigling his way through the traffic, obviously happy once more; and now we understand that there is for sale one horse, condition as new (barring slight erosion of the knees), owner having no further use for the same.

AND that reminds us of the well-known acceptance pilot who became possessed not of a devil—but of a Ford. The indelicacy of that unmistakable back axle he hid with a low hung petrol tank, and lavished "V" raidators and disc wheels on the thing till it looked as if it had strayed away from Brooklands track. It appears that there was a certain difficulty in starting up, and one snowy day when it had been standing just off Piccadilly, and the efforts, of himself, his partner and a borrowed organ-grinder (whose association, they thought, specially fitted him for the job) had failed to fetch so much as a grunt out of her, they jacked the back wheels up, and putting her in gear, gave a mighty pull at the crank.

She went off merrily enough, but the jack was insecure, and subsided from under. The back wheel spun a few times in the snow, and gripped, whereupon the infuriated Ford put its head down and headed straight for the large shimmering plate glass window of a restaurant across Piccadilly. The partner gave a flying leap on to the running board, and careered Mazeppa-like down the street, frantically pushing everything that looked like a control. He just managed to pull her up eight inches short of a very solid motor-'bus.

NEWFOUNDLAND, according to Sir Joseph Outerbridge, a member of the Newfoundland Chamber of Commerce, is making a bid, by reason of its favourable situation with the United States and England, to become in the future the great aeroplane station of the Empire. Lord Morris, formerly Premier of Newfoundland, endorses this ambition, and hopes to see in the Colony some of the greatest landing stations and aerodromes of the Empire; instead of taking a week or a fortnight to come to England, Newfoundlanders would, he claims, be coming over for the week-end.

MR. W. L. WYLLIE, R.A., is again in the ranks of Aviation Artists, as witness the walls of the 1918 Royal Academy.

A FRIEND of mine, says the *Londoner*, just returned from active service in Egypt, tells me that he recently passed an evening with a sheikh under a palm tree. The sheikh was tremendously interested in tales of Irish folk-lore. By way of returning the compliment, the Arab said: "I will tell you an Arab proverb. Remember it, for it applies to all men, of all races."

"He who knows not and knows not that he knows not is a fool—avoid him!

He who knows and knows not that he knows is asleep—awake him!

He who knows not and knows that he knows not wants beating—beat him!

But he who knows and knows that he knows is a wise man—follow him!"

THE U.S. War Department has asked Congress for a billion dollars (£200,000,000) appropriation for aircraft production in addition to the 640 million dollars (£128,000,000) already expended.

And it was but 5 years ago when we hesitated to think in a single million!

THERE is at least one thing one has to be thankful to the air-raids for. The shifting from London's streets of the organ grinding fraternity and their instruments of torture. Italy's military needs absorbed most of the male section of this "industry" roaming in this country, leaving their better half portion and their basket litters to carry on. The air-raids put the finishing touch to the problem, through the lure of the country bomb-free districts. Hence the present mingling of the musical (?) thumping with the spring songs of the countryside. Some of the hitherto secluded folk say they would now welcome a little local barraging to clear the air.

CAPT. ALAN BOTT, M.C.—whose nom-de-plume is "Contact"—has paid the modified war penalty in now being a prisoner of war in Palestine and wounded.

HONOUR to war-journalism has been accorded by the French Government at the desire of General Pétain, by the conferring of the decoration of the Chevalier of the Legion of Honour on seven of the English and American correspondents who have been attached for the past 20 months to the French armies. Those receiving this mark of distinction are:—Mr. Gerald Campbell ("Times"); Mr. G. Herbert Perris ("Daily Chronicle" and "Daily Telegraph"); Mr. Warner Allen ("Morning Post"); Mr. Lester Lawrence (Reuter's Agency); Mr. Henry Wood (U.P.A. of America); Mr. Robert Berry (Associated Press of America); and Mr. Paul Scott Mowrer ("Chicago Daily News").

WE hear that a prominent American steel company is busy on an order for sheet steel for the wing surfaces of the new fighting "airplanes." It is stated that this material is being rolled in sheets one-thousandth of an inch thick. Think of it! That safety razor blade you nicked your chin with this morning was about 12-thousandths of an inch thick, in fact this new form of "fabric" will be literally no stouter than a cigarette paper. And how about tensioning to meet the fluctuating strains, and rust?

TEN YEARS AGO.

Excerpts from the "Auto." ("FLIGHT's" precursor and sister Journal) of April, 1908. "FLIGHT" was founded at the latter end of 1908.

M. DELAGRANGE BREAKS THE RECORD.

There is a very sporting but perfectly friendly rivalry between M. Delagrangé and Mr. Henry Farman, both of whom have provided themselves with practically identical machines of the same make. On Saturday afternoon, April 11th, M. Delagrangé attained his heart's desire by a really remarkable record-breaking flight. Having summoned the Aero Club Committee, M. Delagrangé mounted his machine about 5 o'clock in the afternoon, and, without any preliminary hitch, started off on his flight round a triangular course measuring 825 metres in length. The Judges declared the official distance of the free flight to be 3,575 metres and the time 9 mins. 15 secs.

COLONEL TEMPLER RETIRES.

The announcement of the retiral of Colonel J. L. B. Templer from the position of Superintendent of the Balloon Factory at Aldershot is one which will be received with regret. He has been a pioneer not only in the introduction of the balloon into warfare, but has also been one of the most strenuous

investigators in the science of aeronautics. He had a long experience of aeronautical matters, having first made balloon ascents with Mr. T. Wright, a pupil of the famous Coxwell. In 1877 he brought the possibilities of the application of the balloon to military purposes before the War Office authorities, and has since then been connected with that particular branch.



The raid on Metz Sablon, April 12th last. Note references to where bombs burst.

(British Official.)



The British Air Services

"PER ARDUA AD ASTRA"



The Royal Air Force.

London Gazette Supplement, April 30th.

Flying Branch.

To be Temp. Lieut.-Cols. whilst employed as Lieut.-Cols. (Flying):—Maj. R. A. Bradley; April 11th. Maj. F. K. Haskins, D.S.O.; April 17th.
To be Temp. Majors whilst employed as Majors (Flying):—Capt. L. J. R. A. Bayly, M.C., Capt. C. Cooper, Capt. G. M. Croil, Capt. F. L. Robinson, M.C.; April 11th. Lieut. (Temp. Capt.) A. H. Peck, D.S.O., M.C.; April 13th.
Lieuts. to be Temp. Captains whilst employed as Captains (Flying):—(Hon. Capt.) W. Ashton, P. J. Barnett, M.C., D. H. Bell, M.C., R. B. Bourne, A. D. C. Browne, C. C. L. Dowdall, D. H. de Burgh, D. R. C. Gabell, D. A. Hansard, A. A. Harcourt-Vernon, J. S. Hodges, W. E. Holland, B. G. King, J. Mundie, G. H. Plowman, W. E. Reed, R. G. Rolie-Rogers, A. J. Salton, J. Seabrook, C. G. Sturt, J. B. Tait, C. E. Ward, C. M. White, G. E. Wilson; April 1st. (Hon. Capt.) S. M. Kinkead, D.S.O.; April 5th. O. C. Bridgeman; April 6th. H. V. Puckridge; April 7th. E. D. G. Galley; April 9th. (Hon. Capt.) A. T. Whealy, D.S.O.; April 9th, 1917. C. T. Brown, (Hon. Capt.) B. A. Millson, H. A. Rigby, (Hon. Capt.) V. E. Sieveking, D.S.O.; April 11th. (Hon. Capt.) A. C. Burt, E. H. Comber-Taylor, G. L. Ormerod; April 13th. (Hon. Maj.) G. T. J. Barry, W. Mitton, E. Pybus; April 17th. P. W. Rutherford, M.C., R. C. St. J. Dix, M.C.; April 19th. B. E. Catchpole; April 22nd. H. A. Mason; April 23rd.

Maj. W. T. Rutledge resigns his commission; May 1st.
Lieut. M. Bird relinquishes his commission on ceasing to be employed; April 10th.
Lieut. G. R. Carmichael relinquishes his commission on account of ill-health contracted on active service; May 1st.
Lieut. (Lieut., 1st Cent. Ont. R.) F. A. Loosley resigns his commission; May 1st.
2nd Lieut. M. Corrie relinquishes his commission on account of ill-health contracted on active service; May 1st.

Administrative Branch.

Maj. B. O. Jenkins, C.B.E., to be Temp. Lieut.-Col., without the pay and allowances of that rank, while specially employed; April 22nd.
To be Temp. Captains while employed as Admin. Captains:—2nd Lieut. E. P. Dampier, Lieut. R. A. Trelease, Lieut. R. M. Ward; April 1st. Lieut. G. G. Fiddes, Lieut. F. Petch; April 30th.
2nd Lieuts. to be Temp. Lieuts. while employed as Admin. Lieuts.:—W. Brackenbury, H. J. Clark, A. L. Freeman, J. H. Thorpe, E. W. Vine, P. A. Wright; April 22nd. E. J. Dowty; April 26th. A. H. Simpson; April 30th.
Lieut. (Temp. Capt.) (Temp. Capt., K.R. Rif. C.) A. E. Marshall relinquishes his commission on ceasing to be employed; April 8th.
Lieut. (Temp. Lieut., Rif. Brig., attd.) H. J. Lord relinquishes his commission on ceasing to be employed; May 1st.
2nd Lieut. M. A. McKenzie relinquishes his commission on account of ill-health contracted on active service; May 1st.

Technical Branch.

Maj. G. Laing to be Temp. Lieut.-Col. while employed as Lieut.-Col. (Tech.); April 1st.
Capt. O. V. Thomas to be Temp. Maj. while employed as Maj. (Tech.); April 30th.
To be Temp. Captains while employed as Captains (Tech.):—Lieut. D. R. Pye; April 6th. Lieut. L. J. Stuart; April 15th.
2nd Lieut. A. H. Brown to be Temp. Lieut. while employed as Lieut. (Tech.).
2nd Lieut. W. A. C. Allen relinquishes his commission on account of ill-health; May 1st.
The rank of Lieut.-Col. (Temp. Brig.-Gen.) C. L. Lambe, C.M.G., D.S.O., is as now stated, and not as in the Gazette of April 5th.

London Gazette Supplement, May 3rd.

The following temporary appointments are made at the Air Ministry:—

Deputy Controller-General of Equipment.

A. Huggins, D.S.O. (Bt. Major in Army), is transferred to R.A.F., and is granted a temp. commission as Lieut.-Col., and to be Temp. Brig.-Gen. while so employed; Feb. 18th (substituted for notification in Gazette of March 22nd).

Staff Officer, 2nd Class.

Lieut. (Temp. Capt.) L. Reynolds, and to be Temp. Major while so employed; April 3rd.

Staff Officer, 3rd Class (unpaid).

Temp. Hon. Capt. B. S. Cohen; April 1st (substituted for notification in Gazette of April 2nd).

The following temporary appointments are made:—
Area Commanders.—Major-Gen. M. E. F. Kerr, C.B., M.V.O.; F. C. Heath-Caldwell, C.B. (Major-Gen. in Army), and is granted a temp. commission as Major-Gen.; Hon. Sir F. Gordon, K.C.B., D.S.O. (Major-Gen. in Army), and is granted a temp. commission as Major-Gen.; G. C. Cayley, C.B. (Rear-Adm. in R.N.), and is granted a temp. commission as Major-General; Lieut.-Col. (Temp. Major-Gen.) C. A. H. Longcroft, D.S.O., and to retain his temp. rank while so employed; April 1st.
Brigadier Commander.—Lieut.-Col. (Temp. Brig.-Gen. in Army) T. C. R. Higgins; April 1st.

Group Commanders (and to be Temp. Brig.-Gens. while so employed if not already holding that rank):—Lieut.-Col. (Temp. Brig.-Gen. in Army) J. H. W. Becke, D.S.O., Lieut.-Col. (Temp. Brig.-Gen.) H. D. Briggs, Lieut.-Col. E. L. Gerrard, Lieut.-Col. (Temp. Brig.-Gen.) C. L. Lambe, C.M.G., D.S.O., Lieut.-Col. H. P. Smyth-Osbourne, Lieut.-Col. J. M. Steel, Lieut.-Col. (Temp. Brig.-Gen. in Army) C. F. de S. Murphy, D.S.O., M.C.; April 1st. Lieut.-Col. W. B. Caddell; April 20th. Lieut.-Col. F. V. Holt, D.S.O.; April 26th.

Group Commanders (and to be Temp. Cols. whilst so employed, if not already holding that rank):—Major (Temp. Lieut.-Col.) A. W. Briggs, D.S.O., Lieut.-Col. A. G. Board, D.S.O., Lieut.-Col. E. F. Briggs, D.S.O., Lieut.-Col. (Temp. Col.) C. R. Samson, D.S.O.; Lieut.-Col. S. E. Smith; April 1st. Lieut.-Col. W. R. Freeman, D.S.O., M.C.; April 22nd. (And to be Temp. Lieut.-Cols. whilst so employed if not already holding that rank):—Major R. C. Hayes, Lieut.-Col. H. A. Williamson; April 1st.

2nd in Command of a Group.—Lieut.-Col. F. C. Halahan, and to be Temp. Col. whilst so employed; April 1st.

Brigadier-Generals (Administrative) (and to be Temp. Brigadier-Generals, whilst so employed):—B. H. H. Cooke, C.M.G., D.S.O. (Lieut.-Col. in Army), and is granted a temp. commission as Lieut.-Col.; Lieut.-Col. (Temp. Brig.-Gen. in Army), H. C. T. Dowding; April 1st.

Colonels (Administrative) (and to be Temp. Cols. whilst so employed):—Major (Temp. Lieut.-Col.) B. C. Fellows, Mar. (Temp. Lieut.-Col.) A. L. Godman, D.S.O.; April 1st. Major (Temp. Lieut.-Col.) N. D. K. MacEwen, D.S.O.; April 20th.

S.O., 1st Class (and to be Temp. Lieut.-Cols. while so employed, if not already holding that rank):—A. M. Bent, C.M.G. (Bt. Col. in Army), and is granted a

temp. commission as Lieut.-Col. (Hon. Col.); Capt. H. M. Bentley; Lieut.-Col. I. M. Bonham Carter; K. L. Buist (Major in Army), and is granted a temp. commission as Major; Capt. M. G. B. Copeman; Capt. E. R. L. Corballis, D.S.O.; Major A. H. W. Elias Wynn; Major (Temp. Lieut.-Col.) N. J. Gill, M.C.; E. H. Griffith (Major, Bt. Lieut.-Col., ret. pay), and is granted a temp. commission as Lieut.-Col.; Major T. G. Hetherington, C.B.E.; Major (Temp. Lieut.-Col.) L. Jenkins, D.S.O., M.C.; C. E. Lawder (Temp. Major in Army), and is granted a temp. commission as Major; Major A. Levick; Major C. M. Murphy; Major F. L. Scholte; April 1st. Major C. R. S. Bradley; April 2nd. L. Munro (Col., ret. pay), and is granted a temp. commission as Lieut.-Col. (Hon. Col.); April 4th. Capt. (Temp. Major) F. A. J. B. Wiseman; April 6th. J. A. Houson-Crauford (Major, ret. pay), and is granted a temp. commission as Major; A. C. Winter (acting Staff Paymaster, R.N.), and is granted a temp. commission as Major; April 10th. J. M. Home (Bt. Col. in Army), and is granted a temp. commission as Lieut.-Col. (Hon. Col.); April 11th. E. P. A. Melville (Capt. in Army), and is granted a temp. commission as Capt.; April 15th.

S.O., 2nd Class (and to be Temp. Majors while so employed, if not already holding that rank):—Lieut. (Hon. Capt.) S. C. F. Bacon; Lieut. (Temp. Capt.) C. H. Bell; Capt. W. T. Blake; H. Campbell, D.S.O. (Lieut.-Col. in Army, T.F.), and is granted a temp. commission as Major (Hon. Lieut.-Col.); C. T. Hesketh (Hon. Major in Army) and is granted a temp. commission as Major; Capt. W. W. Higgin; A. E. Loder (Staff Paymr., R.N.R.), and is granted a temp. commission as Major; Capt. A. W. Macilwaine; Capt. (Hon. Major) H. A. Michell; Capt. E. C. Perrin; C. A. Shaw (Capt. in Army), and is granted a temp. commission as Capt.; Capt. P. Sidney; Lieut. (Temp. Capt.) G. A. Sinclair-Hill; Lieut. (acting Capt.) R. W. Ward; M. McK. Wood (Capt. in Army, T.F.), and is granted a temp. commission as Capt.; April 1st. Lieut. H. K. Payne; April 6th. Capt. C. F. O. Master; April 8th. H. F. F. Birch (Temp. Capt. in Army), and is granted a temp. commission as Capt.; April 10th. 2nd Lieut. E. W. Simpson; April 13th.

S.O., 3rd Class (and to be Temp. Captains while so employed, if not already holding that rank):—Lieut. (Hon. Capt.) J. Andrews, Lieut. (Hon. Capt.) J. M. Bell, D. L. Blumenfeld (Lieut. in Army, T.F.), and is granted a temp. commission as Lieut., Capt. W. D. Budgen, Lieut. H. W. Eaton, Lieut. (Hon. Capt.) P. Ellis, Lieut. (Hon. Capt.) R. R. Prentice, J. L. Robertson (Capt. in Army), and is granted a temp. commission as Capt., Lieut. S. T. Smith, Capt. B. D. S. Tuke; April 1st. Lieut. (Temp. Capt.) R. L. Kennedy; April 8th. Capt. F. J. Wise; April 9th. Lieut. (Hon. Capt.) J. A. Carr, D.S.O.; April 10th. Lieut. G. R. McCubbin, D.S.O.; April 11th. Lieut. (Temp. Capt.) E. J. Wickens; April 23rd.

E. L. Ellington, C.M.G. (Bt. Col. (Temp. Brig.-Gen.) in Army), is granted a temp. commission as Col., and to be Temp. Major-Gen. while specially employed; April 10th.

Col. F. R. Scarlett, D.S.O., to be Temp. Brig.-Gen. while employed as Director, Air Division, at the Admiralty; April 1st.

Col. (Temp. Brig.-Gen.) A. V. Vyvyan, D.S.O., to retain his temp. rank while sen. R.A.F. Officer under the Commander-in-Chief, Mediterranean; April 17th.

Flying Branch.

Major A. V. Holt to be Temp. Lieut.-Col. while employed as Lieut.-Col. (Flying); April 21st.

Capt. K. F. Balmain to be Temp. Major while employed as Major (Flying); April 21st.

Lieut. G. C. Twining to be Temp. Capt. (but without the pay and allowances of that rank) while specially employed; April 1st.

Lieuts. to be Temp. Captains while employed as Captains (Flying):—(Hon. Capt.) F. Lindsay, I. H. P. McEwen; April 1st. F. A. Nicholson; April 3rd. D. G. Cooke; April 11th. G. O. Johnson; April 12th. (Hon. Capt.) S. W. Vickers; April 19th. J. V. Sorsoleil, M.C.; April 20th. H. C. R. Owen; April 21st. G. G. Walker; April 26th.

The following are granted temp. commissions as 2nd Lieuts.:—Sgt. (Pilot) H. N. Lee, Sgt. (Pilot) C. L. Startup; April 29th.

Lieut. W. J. G. Armiger relinquishes his commission on account of ill-health contracted on active service; May 4th.

Lieut. (Lieut. Can. Local Forces) H. K. Black relinquishes his commission on ceasing to be employed on account of ill-health; May 4th.

Lieut. (Lieut., S. Staffs, S.R.) F. P. Blencowe relinquishes his commission on ceasing to be employed on account of ill-health contracted on active service; May 4th.

Lieut. (Lieut., Can. Local Forces) W. W. Boyd relinquishes his commission on ceasing to be employed; May 4th.

Lieut. D. W. Dawson resigns his commission to resume his medical studies; May 4th.

Lieut. W. T. Grieves resigns his commission; May 4th.

Lieut. R. K. MacKenzie resigns his commission; May 4th.

Lieut. C. P. Vivian relinquishes his commission on account of ill-health contracted on active service; May 4th.

2nd Lieut. B. St. J. H. Atteridge relinquishes his commission on account of ill-health contracted on active service; May 4th.

2nd Lieut. M. Benjamin relinquishes his commission on account of ill-health; May 4th.

The notification in the Gazette of April 19th concerning Major (Temp. Lieut.-Col.) R. R. Smith-Barry is cancelled.

Administrative Branch.

W. B. Armitage (Temp. Major in Army) to be Capt. (Hon. Major); April 13th.

H. Perry (Temp. Capt. in Army) is granted a temp. commission as Major; April 15th.

Capt. J. L. Luntley relinquishes the temp. rank of Major on reversion to Administrative Capt.; April 26th.

Lieut. B. D. Bellamy, from a Staff Officer, 4th Cl., to be Administrative Lieut.; April 26th.

Capt. (Temp. Major) Hon. M. Baring, from a Staff Officer, 2nd Cl., to retain his temp. rank while employed as Administrative Major; April 27th.

2nd Lieut. G. Ryall to be Temp. Lieut. while employed as Administrative Lieut.; April 29th.

J. H. Wright (Temp. Lieut. in Army) to be Temp. 2nd Lieut. while employed as Administrative 2nd Lieut.; April 29th.

G. H. Carbutt (Midshipman, R.N.) is granted a temp. commission as 2nd Lieut.; April 1st.

Cadets are granted temp. commissions as 2nd Lieuts.:—E. J. A. Prosser, C. E. Taylor, W. Waddingham; April 3rd. R. L. Burdon-Sanderson; April 6th. C. H. Allen, E. S. Bale, H. C. S. Drake, J. S. Houston, W. C. Ingleby, A. A. Jackson, L. W. Killen, L. T. Lawrence, H. W. T. Lewis, R. G. Maclean, J. McCormack, E. P. Nickless, J. L. Ure, W. E. G. Wallace, G. Wayman, A. L. Wright; April 8th. F. Mycock, from A.O.C., Sgt. H. F. Tattersall; April 9th. T. D. H. Bruce; April 14th.

Cadets are granted temp. commissions as 2nd Lieuts.:—K. R. Bonnie, W. R. H. Gateshill, H. D. Giblett, W. G. Hines, H. G. Johnston, C. G. Martin

J. T. McDougall, A. L. Muir, 1/A.M. (A. Cpl.) E. S. Osborn, H. Plackett, G. R. Robinson, C. J. Sear, G. C. Shakespeare, W. G. Smith, K. M. Stewart, K. L. Vernon, S. T. Westcott; April 15th. 1/A.M. F. J. Horman-Fisher; April 20th. Ldg. A/C. B. U. Wood; April 23rd. D. L. C. Evans, A. J. Maguire, H. Varney, Aircraftsman R. O. Cook, Ldg. A/C. A. B. Goodman, 1st A/C. C. Ham, 3rd Writer T. F. Kingston, Cadet F. B. Morris; April 24th. Cpl. W. T. Bodger; April 28th. 2/A.M. A. R. Deacon, Cpl. C. J. Skidmore-Jones; April 29th. Cadet A. M. Falconer; May 1st.

Technical Branch.

Lieut. (Temp. Capt.) W. W. Stenning to be Temp. Major, while employed as (Tech.) Major; April 24th.

J. G. Connell (Lieut. in Army, T.F.) is granted a temp. commission as Lieut.; April 15th.

2nd Lieut. A. G. Cardwell to be Temp. Lieut. while employed as Lieut. (Tech.); April 13th.

J. N. Longfield (Temp. Lieut. in Army) to be Temp. Lieut. while employed as Lieut. (Tech.); April 15th.

2nd Lieut. E. B. Crampton relinquishes his commission on account of ill-health; May 4th.

Medical Branch.

R. P. Williams, from Temp. Capt., R.A.M.C., is granted a temp. commission as Capt.; April 22nd.

Royal Flying Corps (Military Wing).

London Gazette Supplement, April 30th.

The following appointments are made:—

Flying Officers.—Temp. 2nd Lieut. E. P. Speakman, Manch. R., and to be transd. to R.F.C., Gen. List; March 17th. 2nd Lieut. G. W. J. Stant (Middx. R. (T.F.)) and to be secd.; March 23rd. 2nd Lieut. (Temp. Lieut.) F. Williams, R.W. Fus. (T.F.), from a Flying Officer (Obs.); March 26th; seniority March 4th, 1917. Lieut. (Temp. Capt.) C. Jackson, A.S.C. (T.F.), and to relinquish his temp. rank; March 29th.

Temp. 2nd Lieuts. (on prob.), Gen. List, and to be confirmed in their rank:—A. T. Sampson; Dec. 10th, 1917. B. R. Redman; Dec. 24th, 1917. W. A. Pomeroy; Jan. 7th. I. W. Hunter; Jan. 17th. F. K. Tully; Jan. 23rd. B. Rogers; Jan. 24th. W. W. Chreiman; Feb. 14th. R. D. Forbes; Feb. 15th. L. H. Smith; Feb. 20th. M. C. Dick; March 18th. F. G. Edwards; March 20th. D. D. McQuat; March 23rd. R. Alton, T. Barr, H. C. Jones; March 25th. B. W. Wright, A. E. Lundie, P. B. Cooke, H. C. Marr, H. Naylor, J. W. Wathes, H. L. Woolson; March 26th. J. Law, W. J. Saunders, F. W. Goodman, W. A. Wheeler, L. N. Caple; March 27th. C. H. Wylam; March 28th. J. B. Perring; March 29th. J. R. R. McCallum, C. H. Strickland, J. W. Davies, H. M. Strachan, C. H. Smith, H. S. Davidson, R. W. Locheed; March 30th.

Equipment Officers, 1st Class.—From the 2nd Class, and to be Temp. Capt., while so employed; March 30th:—Lieut. A. J. M. Ross, S.R. Temp. Lieuts., Gen. List:—W. B. Everton, E. F. Moulder, A. Howard, A. W. H. Phillips, N. Liddall, Lieut. D. Drover, S.R., Temp. Lieut. P. M. Brambleby, Gen. List.

2nd Class.—From the 3rd Class; March 30th:—Temp. Lieut. A. H. Dye, S. Afr. Def. Force. Temp. 2nd Lieuts., Gen. List, and to be Temp. Lieuts. while so employed:—J. S. Done, H. S. Askew.

3rd Class. March 29th:—Temp. Capt. W. C. Green, M.C., R. Fus., and to be transd. to R.F.C., Gen. List; Capt. H. A. de F. Purber, R.W. Kent R., S.R., and to be secd.; Lieut. P. M. Greenwood, Durh. L.I. (T.F.); Temp. Lieut. F. M. V. Earle, R.A., and to be transd. to R.F.C., Gen. List; Lieut. A. Howard, North'n R. (T.F.), from attd. M.G. Corps; Lieut. A. Colling, Manch. R. (T.F.), and to be secd.; Temp. Lieut. A. E. R. Russell, M.G. Corps, and to be transd. to R.F.C., Gen. List; Temp. Lieut. A. Daniels, Trg. Res., and to be transd. to R.F.C., Gen. List; Lieut. H. L. Marston, Manch. R. (T.F.), and to be secd.; Lieut. H. Teesdale, Inns of Court O.T.C. (T.F.), and to be secd.; Temp. 2nd Lieut. R. J. Martin, M.G. Corps, and to be transd. to R.F.C., Gen. List; 2nd Lieuts. P. F. Connaughton, R.G.A., S.R., and to be transd. to R.F.C., Gen. List; Temp. 2nd Lieut. T. F. Pulein, attd. Rif. Brig.; Temp. 2nd Lieut. L. L. Collings, Lab. Corps; 2nd Lieut. (Temp.) J. Buckthought, R. Def. Corps (T.F.), and to be Temp. 2nd Lieut. R.F.C., Gen. List; Lieut. W. H. Spargo, L'pool R. (T.F.), and to be secd.

Temp. 2nd Lieuts. (on prob.), Gen. List, and to be confirmed in their rank:—L. A. T. Power, L. R. Paget, V. P. Pereth, P. B. Barlow, R. Betts, C. M. Bevan, J. C. McInnes, E. Hague, E. G. Jameson, W. R. Jenner, E. A. Morrow, J. S. Viner, S. E. White, G. F. Gregg, G. S. Orr, C. Elwell, R. L. Finnis, W. T. Henry.

General List.—To be Temp. 2nd Lieuts. (on prob.):—H. V. Henderson, J. S. Hunt, Le R. H. Holmes, C. G. Hoffman, P. C. Heatherst, T. G. Hughes, G. Hanson; March 3rd.

Memorandum.—2nd Lieut. H. C. Williamson to be Lieut. while serving with R.F.C.; Dec. 22nd, 1917.

London Gazette Supplement, May 1st.

Military Wing.—The following appointments are made:—

Flying Officers.—Temp. Lieut. C. J. G. Wallace, attd. North'd Fus., and to be transd. to R.F.C., Gen. List; March 14th. 2nd Lieut. E. W. Tregarten, R. W. Fus. (T.F.), and to be secd.; March 17th. Lieut. F. Kettle, W. York. R. (T.F.), and to be secd.; March 18th. Lieut. R. A. Gliddon, Middx R., and to be secd.; March 26th. Lieut. D. Dall, Cent. Ontario K., Canadian Exped. Force; Lieut. E. Cate, Canadian F.A.; Temp. 2nd Lieut. W. M. Worman, S. Staff. R., and to be transd. to R.F.C., Gen. List; March 27th. Lieut. C. W. Brown, Middx R. (T.F.), and to be secd.; March 28th. Lieut. H. S. Bannister, Alberta R., Canadian Exped. Force; March 30th. Temp. 2nd Lieuts. (on prob.), Gen. List, and to be confirmed in their rank:—B. A. Creeine; Nov. 27th, 1917. M. S. Gregory; Dec. 30th, 1917. B. B. Halleck, C. M. Moore, M. Munden; Jan. 5th. T. E. Babbitt; Jan. 12th. E. M. Brown; Jan. 21st. G. Stephenson; Feb. 5th. W. Breckenridge; Feb. 7th. F. Edsted, C. D. Nadeau; Feb. 16th. R. D. Doane; Feb. 18th. G. S. Bourner; March 7th. S. R. Coward; March 8th. G. Scarrott; March 12th. F. Horsley; March 15th. T. R. R. Burns, E. R. Pemberton; March 16th. H. H. Mawer, G. T. May, W. E. N. Growden; March 17th. A. R. Thompson; March 18th. A. H. Welsh; March 19th. G. M. C. T. Whitehead, F. E. Hobson, M. F. Mousley, C. P. Stewart; March 20th. C. L. Huskins, S. F. Garrett, C. M. Watterson, T. J. Knight, J. S. Geddes; March 21st. H. C. Alexander, J. A. King, R. F. S. Johnson, A. W. Pausch, K. R. Thomas; March 22nd. G. W. G. Cass, H. A. Rodger, A. E. Bourns, G. F. Metson, H. Van-Duzer; March 23rd. C. B. Hunt, W. J. Crockett, W. A. Morris, E. J. Whitehead; March 24th. G. W. Northridge, H. C. Hunter, H. C. Foley, W. C. Simon, C. G. Holbeche, F. Daltrey; March 25th. A. H. Hiscox, D. M. McGregor, J. C. McCormick, H. C. Noel, A. Ferris, B. Fitz, W. Levett; March 26th. N. C. Kearney, C. F. Embleton, J. H. Whitham; March 27th. H. G. Buckley, G. H. Howarth, S. E. Carson; March 28th. J. F. Drake; March 29th. P. J. E. Pierce, H. L. Wren, W. A. Tait, J. M. Johnson, L. K. Baker, J. B. Chamberlin, J. F. Attewell, D. R. Rankin, S. R. Mantle; March 30th. F. N. Finch, A. F. Sanders; March 31st.

Equipment Officers, 3rd Class.—2nd Lieut. J. H. Ferguson; Sept. 28th, 1917. Capt. P. Colbeck, North'd Fus. (T.F.); Jan. 1st. Temp. Lieut. W. Archdale, attd. R. War. R., and to be transd. to R.F.C., Gen. List; Jan. 10th. Capt. H. B. McKinnon, Cent. Ontario R., Canadian Exped. Force, from a Flying Officer; March 19th. Temp. 2nd Lieut. D. Gordon, Res. Regts. of Cav., and to be transd. to R.F.C., Gen. List; Temp. Lieut. H. D. Cope, Training Res., and to be transd. to R.F.C., Gen. List; Temp. Lieut. H. K. Knight, Gen. List, from a Flying Officer; Temp. 2nd Lieut. J. Penrose, Labour Corps,

and to be transd. to R.F.C., Gen. List; 2nd Lieut. S. G. Bunster, R.G.A., S.R.; March 21st. Lieut. (Temp. Capt.) A. F. St. J. Kinsey, R.E. (T.F.), and to relinquish his temp. rank; Lieut. R. W. Hughman, Middx R. (T.F.), and to be secd.; 2nd Lieut. C. E. Nightingale, R.G.A., S.R.; March 23rd. Temp. 2nd Lieuts. (on prob.), Gen. List, and to be confirmed in their rank:—T. B. Hardy; Dec. 1st, 1917. K. Draco; Dec. 4th, 1917. H. B. Shephard; Jan. 2nd. J. H. Reynolds; Jan. 28th. G. V. Vantusk, J. L. Cleland; Feb. 25th. F. Boulst; Feb. 26th. W. Bye; March 1st. C. W. Gigg, M. V. Benham; March 11th. F. W. Osborne, C. H. Badderly, T. R. Barlow, R. O. Mullinger, R. Neill; March 21st. L. H. J. Bouchier, W. F. Boyd; March 23rd.

General List.—G. F. Whitmore, late Temp. Maj., to be Temp. Maj.; Nov. 19th, 1917. Temp. 2nd Lieuts. to be Temp. Lieuts.:—B. Burton, E. R. V. Collett, F. W. Field (Temp. Lieut.) L. T. Beddow, O. G. S. Crawford; July 1st, 1917. (Temp. Lieut.) J. E. B. Thronley; July 4th, 1917. C. G. Salmond; Sept. 17th, 1917. L. F. Jones; Oct. 29th, 1917. J. S. Rissen; Nov. 24th, 1917. W. Cochrane; Dec. 3rd, 1917. J. R. Evans; Dec. 25th, 1917. W. Strang, S. A. W. Knights, M.C., C. A. B. Wilcock; Jan. 7th. A. Hutchison, J. G. Goodyear, V. F. S. Dunton, L. W. Beal, J. A. Dales; Feb. 5th. D. F. Cox, H. F. N. Paull; Feb. 8th. G. Lacey; Feb. 17th. W. J. Reid; March 3rd. G. F. Hunter, E. D. Inskip, B. C. Jones, F. P. Brown, A. F. Kemp; March 5th. E. H. Channon; March 9th. B. D. Bennett, J. C. Courtice; March 10th. A. Wragg; March 14th. A. W. Gardner; March 15th. C. T. Keble; March 19th. H. Newns; March 24th. J. Henry, G. I. Fry, W. Allan, R. de R. Brett, M.C., H. Briggs, T. E. Carley, W. Casson, S. Cleobury, W. C. McMurray, R. Parkhouse, E. G. Roberts, P. Robinson, J. I. Bernstein, E. L. Shaw, J. Toulmin, F. C. Wild, R. Wilson; March 26th. The surname of Temp. 2nd Lieut. G. Scarrott, Gen. List, is as now described, and not as in Gazette of Nov. 23rd, 1917.

London Gazette Supplement, May 2nd.

The following appointments are made:—

Squadron Commander.—Lieut. (Temp. Capt.) J. McKelvie, R.E. (T.F.), from a Flight Comdr., and to be Temp. Maj. while so employed; March 11th.

Flight Commander.—Lieut. T. P. Middleton, R.F.A. (T.F.), from a Flying Officer, and to be Temp. Capt. while so employed; March 30th.

Flying Officers.—2nd Lieut. G. J. Fowler, R.F.A., S.R.; March 23rd. Temp. Capt. A. B. Yuille, attd. E. Lan. R., and to be transd. to R.F.C., Gen. List; Lieut. J. Scrae, E. Kent R. (T.F.), and to be secd.; Temp. Lieut. A. C. Bayley, attd. W. York R., and to be transd. to R.F.C., Gen. List; March 26th. 2nd Lieut. A. E. Robotham, R.G.A., S.R.; March 29th. Lieut. W. L. Rutledge, M.M., Saskatchewan R., Canadian Exped. Force, from a Flying Officer (Obs.); March 30th, seniority April 22nd, 1917. Maj. A. G. Lincoln, E. Ontario R., Canadian Exped. Force; 2nd Lieut. G. E. Searson, R.F.A., S.R.; March 31st. Temp. 2nd Lieuts. (on prob.), Gen. List, and to be confirmed in their rank:—J. N. Clark; Nov. 18th, 1917. L. R. Curtis; Dec. 12th, 1917. F. D. Evans, R. H. Gast, W. B. Henderson, R. S. MacLatchy; Dec. 19th, 1917. R. N. Hayden; Dec. 30th, 1917. C. D. James, V. H. Simmers; Jan. 12th. H. H. Borden; Feb. 6th. J. B. Dunlop; Feb. 15th. I. V. Lawrence; Feb. 24th. W. F. Williams; Feb. 25th. E. Taylor; Feb. 28th. J. S. Abel; March 6th. L. S. Skevington; March 9th. B. F. Macdonald; March 14th. J. B. Purefoy; March 16th. G. C. Brown, D. C. Dunlop, A. R. Stewart, H. J. Leavitt, W. H. Poole; March 23rd. T. Llewellyn, M. B. Lewis, C. R. Hoare; March 24th. W. J. Hutchinson; March 25th. F. A. Lewis, W. E. Taylor, E. Scadding; March 26th. E. Belbin, W. D. Boeher, C. B. Seymour; March 28th. J. H. Pollitt, C. J. Winstanley, A. J. R. Adam, T. K. G. Oliver; March 29th. F. G. Burslem, J. L. Roberts, F. Spalding, A. Hutchison, A. A. MacArthur, A. E. Tyrell, F. Hopkins, L. Coleman, H. M. Struben, A. F. Chick; March 30th. H. P. G. Leyden, F. R. Ross, R. R. Evans, F. J. Phillips; March 31st.

Flying Officer (Observer).—Temp. 2nd Lieut. (on prob.) E. W. Keep, Gen. List, and to be confirmed in his rank; March 12th, seniority Nov. 21st, 1917.

Park Commanders.—From Equipment Officers, 1st Class, and to be Temp. Maj. whilst so employed:—Lieut. (Temp. Capt.) J. E. Rendle, S.R.; Feb. 15th. Lieut. (Temp. Capt.) H. R. Lecomber, S.R.; Feb. 28th. 2nd Lieut. (Temp. Capt.) L. Auker, Gen. List; March 9th. Lieut. (Temp. Capt.) G. Somers-Clarke, S.R.; March 31st.

Equipment Officers, 3rd Class.—Temp. Maj. G. F. Whitmore, Gen. List; Temp. Capt. A. D. Allen, Gen. List; Temp. Capt. H. M. Eldridge, M.C., North'd R., and to be transd. to R.F.C., Gen. List. Temp. Lieut. S. G. Hewitt, attd. Ches. R., and to be transd. to R.F.C., Gen. List. Lieut. E. A. Walmisley, R.W. Surr. R. S.R., and to be secd.; Lieut. E. H. Edwards, R.F.A. (T.F.), and to be secd.; Temp. Lieut. C. C. Duffield, M.G. Corps, and to be transd. to R.F.C., Gen. List; Temp. Lieut. E. C. Thompson, Gen. List; 2nd Lieut. D. I. B. McCulloch, York R. (T.F.); March 28th. Lieut. B. F. Angus, R.F.A., S.R.; Temp. 2nd Lieut. H. S. Graves, Gen. List, from a Flying Officer; Temp. 2nd Lieut. D. J. Moran, Bord. R., and to be transd. to R.F.C., Gen. List; 2nd Lieut. P. B. Slade, Lond. R. (T.F.), and to be secd.; March 30th. Temp. 2nd Lieuts. (on prob.), Gen. List, and to be confirmed in their rank:—R. C. Brown; Jan. 31st. E. R. Beckwith, J. E. McCrea, G. McLaughlin, S. A. Pook, F. L. Sutcliffe, W. S. Vipond, A. B. Wearing; Feb. 25th. R. K. McLean; March 11th. F. Batterbury, A. W. Clare, H. N. Farmer, C. J. French, J. H. C. Harrold, J. F. Herd, W. H. Hildreth, J. G. F. Moore, E. S. Robilliard; March 26th. J. R. Hovenden, H. Webb, F. C. Topham, W. Dentith, R. Kay, G. C. Moore, G. A. K. Robertson; March 28th. C. Roden, W. E. Taylor; March 30th.

General List.—Temp. 2nd Lieut. R. A. Young, to be Temp. Lieut.; Jan. 7th. Actg. Cpl. D. S. Nicol, from R.F.C., to be Temp. 2nd Lieut.; Feb. 25th. To be Temp. 2nd Lieuts. (on prob.):—V. J. Flynn; Feb. 15th. J. D. Davis, H. C. Dille, P. H. Desarmeu; Feb. 17th. W. S. Walton; Feb. 19th. G. Parsons, A. C. M. Doucet, W. E. Blackett, G. B. Scott, M. A. Vachon, G. Slater, G. Roper, A. D. McBride, P. L. Teasdale, W. D. Cram, E. A. Copp, A. W. Johnston, E. W. Heimer, W. F. Gordon, S. T. Goodnoh, W. H. Gibson, H. J. Fox, H. H. Blanchard, G. E. Lillico, U. T. MacDonald, W. E. McDermott, J. W. Ramsay, H. O. Warren, R. F. Reid, A. Williams, A. G. McGilvray, A. W. Shaw, G. J. Murphy, K. Neighorn, N. S. Swan, H. C. Sherlock, P. B. Brewster; Feb. 24th. R. McG. Balfour, G. E. Davidson, K. R. Campbell, C. N. Barker, H. R. Abey, W. H. Bennet, E. Barker, C. V. Bradley, C. V. Felhauer, M. S. Dickinson, W. Foster, S. A. Forberger, H. Gatfield, S. T. Francis, O. D. Alward, D. R. Day, A. J. Girardot, J. R. O'Connell, C. E. Nicely, H. E. Dobson, A. J. Cleare, S. R. S. Burnett, H. P. Brumell, E. Mulcair, J. A. Van Tilburg, L. W. Sellar, R. L. Scharf, E. A. Spence, H. S. D. Woolley, C. Wilderspin, G. B. Whitney, G. R. Pringle, P. J. O'Donnell, G. Thornton-Norris, M. P. Morgan; March 3rd.

Supplementary to Regular Corps.—2nd Lieuts. to be Lieuts.:—R. W. Cross; Dec. 3rd, 1917. E. A. Clark; Dec. 17th, 1917. A. C. Blackmore; Dec. 19th, 1917. F. H. Jones; Jan. 7th. E. A. Mayner; Jan. 17th. F. C. Berkeley, P. G. Ashford; Feb. 1st. L. Mantell; Feb. 13th. P. H. S. Gwilliam; Feb. 21st. J. A. W. Armstrong; Feb. 24th. J. H. B. Foss; Feb. 27th. L. B. Blackland, A. E. Biggs; Feb. 28th. W. P. Bingham; March 1st. G. T. Bridgewater, L. B. Crough, J. E. J. Crawford; March 3rd. F. H. Postlethwaite; March 9th.

London Gazette Supplement, May 3rd.

The following appointments are made:—

Assistant Instructor in Gunnery (graded as an Equipment Officer, 2nd Class).—Lieut. R. R. MacGregor, R. Scots (T.F.) from M.G. Corps; Sept. 18th, 1917.

Appointment of Lieut. R. R. MacGregor, R. Scots Fus. (T.F.), notified in Gazette of Oct. 13th, 1917, is cancelled.

Equipment Officers, 2nd Class.—From the 3rd Cl.—Capt. the Hon. G. H. J. Boscawen, C. Gds., S.R.; Temp. Lieut. R. M. Davy, Gen. List; Lieut. A. L. Hurd, S.R.; Lieut. J. D. Whiteman, R.E. (T.F.); Temp. Lieut. V. W. Allen, Gen. List. And to be Temp. Lieuts. while so employed:—Hon. Lieut. R. Hodge, from Temp. Qrmar., Gen. List; and Lieut. W. E. Dewberry, S.R.; and Lieut. P. H. S. Gwilliam, S.R.; Temp. 2nd Lieuts., Gen. List:—J. Breckman, S. F. Boam, 2nd Lieut. A. M. Cawthra, Gen. List. Temp. 2nd Lieuts., Gen. List:—E. W. Hooton-Smith, R. J. Tallyn, C. Armand, H. D. Barry, 2nd Lieuts., Gen. List:—J. F. Clark, J. M. Knight, Temp. 2nd Lieuts., Gen. List:—W. G. Mantell, J. A. Cundy, R. W. Lane; 2nd Lieut. R. R. Richards, S.R. Temp. 2nd Lieuts., Gen. List:—G. J. Allday, E. Lewis, M. B. Fitzgerald, A. R. Harris; March 30th.

Experimental Officer, 3rd Class (graded as an Equipment Officer, 3rd Class).—Temp. 2nd Lieut. (on prob.) A. Spring, Gen. List, and to be confirmed in his rank; Feb. 20th.

Schools of Instruction—Schools of Military Aeronautics.

Instructor in Gunnery (graded as an Equipment Officer, 1st Class).—Temp. Lieut. R. C. Nicholls, Gen. List, from an Asst. Instr. in Gunnery (graded as an Equipment Officer, 2nd Cl.), and to be Temp. Capt. while so employed; Feb. 1st.

General List.—Lieut. R. R. MacGregor, R. Scott, (T.F.) to be Temp. Capt. while specially employed; Dec. 10th, 1917.

To be Temp. 2nd Lieuts.:—Dvr. K. C. Pring, from A.S.C.; Cpl. H. Cartwright, from K.O. Sco. Bord. (T.F.); Pte. W. E. Palk, from S. Wales Bord. (T.F.); 3rd Cl. Air Mech. R. Musgrave, from R.F.C.; 3rd Cl. Air Mech. J. E. Atkinson, from R.F.C.; Jan. 4th. Pte. F. Barf, from A.S.C.; Feb. 1st. Sgt. A. Blount, from K.O. Sco. Bord. (T.F.); 3rd Cl. Air Mech. R. Sykes, from R.F.C.; Pte. G. B. Blake, from A.S.C.; Pte. J. C. Tusting, from A.S.C.; Tptr. C. A. Bouchier, from H.A.C. (T.F.); Pte. C. G. Burnip, from R.A.M.C. (T.F.); Acting Sgt.-Major N. Purcell, from R.F.A.; Flt. Sgt. H. H. Wright, from R.F.C.; Feb. 2nd. L.-Cpl. A. Kendall, from Lond. R. (T.F.); Sgt. F. D. Chapell, from Lond. R. (T.F.); Acting Cpl. R. B. Munt, from a Garr. Bn. R. War. R., Pte. A. T. Baker, from A.S.C.; Feb. 3rd. Gnr. R. Lamb, from R.F.A. (T.F.), Cpl. C. D. Pratt, from N. Zealand Engrs. L.-Cpl. F. Whitburn from R. Suss. R., Pte. W. N. Breingan, from M.G. Corps; Feb. 5th.

To be Temp. 2nd Lieuts. (on prob.):—P. B. Stockton; Feb. 21st. C. Watson, N. A. Thomson, R. Smith, M. S. Misener, R. L. Taillon, M. H. McManus, W. S. Lockhart, R. E. La Douceur, H. E. Anderson; March 3rd. H. E. Crane, A. C. Davern, G. W. MacAllister, R. McKiel, J. H. Bauer, R. C. Mitten, H. M. Best, C. Dean, E. G. Delgrave, F. A. McCumber, G. A. Le Moine, R. L. C. Barwick, C. Davidson, G. D. King, V. C. Lashford, F. P. Little, S. M. Linkletter, C. H. Kayler, L. J. Betts, G. F. Birchard, S. D. Connolly, G. A. Coulter; March 10th.

Supplementary to Regular Corps.—2nd Lieut. J. E. Rettie to be Lieut.; July 1st, 1917.

London Gazette Supplement, May 4th.

The following appointments are made:—

Flight Commanders.—From Flying Officers.—Lieut. R. D. Baker, Canadian Local Force, and to be Temp. Capt. whilst so employed; March 1st. Capt. J. W. Pain, Suff. R. (T.F.); March 29th.

Flying Officers.—Temp. 2nd Lieut. H. F. Davison, Gen. List; Oct. 29th, 1917. (substituted for the notification in the Gazette of Nov. 23rd, 1917). 2nd Lieut. N. R. Norman, S.R.; Dec. 29th, 1917. Temp. Lieut. J. Webster, M.C., Gen. List, from a Flying Officer (Ob.); Feb. 2nd, seniority March 14th. March 21st.—Lieut. R. V. Tivy, Lond. R. (T.F.), from a Flying Officer (Ob.), seniority May 1st, 1916; Lieut. E. E. Showler, Cent. Ontario R., Canadian Exped. Force, from a Flying Officer (Ob.), seniority May 17th, 1917. March 22nd.—Lieut. A. Highstone, D.C.M., E. Ontario R., Canadian Exped. Force; Lieut. W. K. R. Liddell, High. L.I. (T.F.), and to be second; Lieut. D. Wilson, Durh. L.I. (T.F.), and to be second; March 30th.

Temp. 2nd Lieuts. (on prob.), Gen. List, and to be confirmed in their rank:—G. G. Baird; Sept. 22nd, 1917. H. E. Snyder; Nov. 24th, 1917. H. D. Copland; Dec. 30th, 1917. A. T. Wyman; Jan. 1st. E. C. Spicer; Jan. 2nd. T. C. Martin; Jan. 5th. J. L. Kirby; Jan. 25th. K. J. Oldfield, H. V. Quick; Jan. 28th. W. N. F. Jenkin; Jan. 30th. W. E. Palk, W. D. Wiseman, A. Patenaude; Jan. 31st. F. R. Walpole; Feb. 1st. G. A. Wightman; Feb. 2nd. K. C. Pring; Feb. 3rd. W. A. Hunter; Feb. 5th. H. Cartwright; Feb. 10th. A. M. Backstrom; Feb. 12th. W. A. Rankin; Feb. 16th. G. Palardy, H. Winkler; Feb. 17th. L. G. Arcand, E. G. R. Maillet, C. L. Wood; Feb. 21st. G. W. Gorman; Feb. 22nd. W. F. Hendershott; Feb. 24th. O. Rose, H. F. Balmer; Feb. 25th. C. W. Thomas; Feb. 26th. W. F. McCarthy; March 3rd. W. J. Cooper; March 11th. J. Ross; March 14th. S. H. Scott; March 16th. W. R. Henderson; March 18th. H. C. Stanyon, W. C. G. Geraghty, P. D. P. Hamilton, J. T. Rogerson; March 19th. J. W. Mackenzie March 20th. H. E. R. Finch, L. M. Goodfellow, G. K. MacGregor, J. D. Davidson, J. D. Cook; March 21st. A. O. B. Turner, H. A. White, J. P. Hitchings, J. S. Hewson; March 22nd. G. R. Priestley; March 23rd. G. R. Poole; March 24th. W. A. Hunter, H. F. Davison; March 26th.

Flying Officer (Observers).—With seniority from Nov. 27th, 1917:—Temp. Lieut. J. Dudley, Notts. and Derby R.; March 31st, and to be transd. to R.F.C. Gen. List; 2nd Lieut. J. B. Birkhead, W. York R., S.R.; March 1st, and to be second; Temp. Lieut. E. A. Jenkinson, R. W. Kent R., and to be transd. to R.F.C. Gen. List; March 29th, with seniority from Nov. 29th, 1917. 2nd Lieut. G. H. B. Richards, R. Highrs. (T.F.), and to be second; March 29th, with seniority from Dec. 12th, 1917. Temp. 2nd Lieut. F. B. Dawson, attd. W. York R., and to be transd. to R.F.C. Gen. List; March 1st, with seniority from Jan. 3rd; 2nd Lieut. (Temp. Lieut.) M. F. Farquharson-Roberts, A.S.C., and to be second; Feb. 18th, with seniority from Jan. 4th. 2nd Lieut. Lord C. C. Douglas, K.O. Sco. Bord., and to be second; March 23rd, with seniority from March 5th.

Temp. 2nd Lieuts. (on prob.), Gen. List, and to be confirmed in their rank:—(March 29th):—R. Wallace, with seniority from Nov. 4th, 1917; J. Paisley, with seniority from Nov. 21st, 1917; S. W. Bunting; March 4th, with seniority from Dec. 11th, 1917. J. A. Galbraith; March 31st, with seniority from Feb. 21st. B. J. Bevan; March 21st, with seniority from March 7th.

Balloon Officers.—Lieut. W. M. Anderson, R. Suss. R. (T.F.); Feb. 6th.

Adjutant.—Capt. C. P. L. Firth, Worc. R., S.R., and to be second; Jan. 1st. **Equipment Officers, 3rd Class.**—Temp. 2nd Lieuts. (on prob.), Gen. List, and to be confirmed in their rank:—J. Driscoll; Feb. 16th. H. M. Bateson, D. S. Nico; Feb. 25th. H. J. Gaunt, F. W. L. Johnson, L. N. Jarvis, F. S. McRae, D. I. D. Murray, E. W. Wrigley, C. E. D. Marsden, E. Morton, W. Tomson; March 11th.

General List.—The following to be Temp. 2nd Lieuts.—Sgt. J. Wickett, from

Devon, R.; Feb. 3rd. Pte. B. Rogers, from Lond. R. (T.F.); Feb. 8th. L. Cpl. T. B. Service, from Canadian Exped. Force; Sgt. D. G. McKenzie, from R.F.A. (T.F.); Sgt. B. V. Chinery, from M.G. Corps; Feb. 9th. Cpl. H. A. Pike, from A.S.C.; Cpl. C. Chambers, from R. Muns. Fus.; Feb. 10th. Cpl. D. W. Lang, from S. Afr. F.C.; Cpl. W. Hornby, from S. Afr. F.C.; 3rd Cl. Air Mech. G. H. Kernick, from R.F.C.; 3rd Cl. Air Mech. H. V. Evans, from R.F.C.; Staff Sgt. C. B. B. Cockman, from H.A.C. (T.F.); 2nd Cl. Air Mech. R. S. Brophy, from S. Afr. F.C.; 2nd Cl. Air Mech. A. V. Bickley, from S. Afr. F.C.; 2nd Cl. Air Mech. A. D. Hegan, from R.F.C.; Feb. 11th. Sgt. J. M. McLeod, from E. Kent R.; 3rd Cl. Air Mech. R. H. Bond, from R.F.C.; Feb. 12th. Sgt. G. Crocker, from Devon R.; Acting Cpl. R. Lane, from R.F.C.; Gnr. B. Thurston, from R.F.A. (T.F.); Acting Sgt. S. Davies, from S. Wales Bord.; Bmdr. C. G. Rich, from R.F.A. (T.F.); Acting Sgt. C. T. Theobald, from Yeo. (T.F.); Co. Qrmar. Sgt. A. Manders, from Worc. R.; Pte. W. Comb, from A.S.C.; Dvr. G. Murray, from A.S.C.; Feb. 13th. Cpl. B. C. Scott, from Lond. R. (T.F.); Feb. 14th.

Hon. 2nd Lieut. J. Driscoll, late York R., to be Temp. 2nd Lieut. (on prob.); Nov. 16th, 1917.

Memorandum.—Flight Sgt. M. W. Piercey, from R.F.C. to be 2nd Lieut. for service with R.F.C.; March 27th.

London Gazette Supplement, May 6th.

Military Wing.—The following appointments are made:—

Flying Officers.—Temp. Lieut. H. A. V. Hill, Gen. List, from a Flying Officer (Ob.); Jan. 5th, seniority March 7th, 1916. Temp. Lieut. the Hon. J. S. Parker, Gen. List (Lieut. E. Afr. Protectorate Force); Jan. 8th. And to be transd. to R.F.C., Gen. List:—Temp. Lieut. C. H. Perry, attd. R. Fus.; Temp. 2nd Lieut. F. R. Wynne, M.G. Corps; Jan. 8th. Lieut. H. M. Tulloch, Ind. Cav.; March 7th.

From Flying Officers (Observers).—Temp. 2nd Lieut. F. F. Bramwell, Gen. List, seniority Feb. 15th, 1917; Lieut. C. E. Jessel, Wilts R.; March 10th, seniority April 4th, 1917; March 9th. Lieut. G. G. Grainger, E. Ontario R., Canadian Exped. Force; Temp. 2nd Lieut. D. R. Snellgrove, R. Suss. R., and to be transd. to R.F.C., Gen. List; March 12th. Temp. 2nd Lieuts. (on prob.), Gen. List, and to be confirmed in their rank:—A. P. Ritchie; Jan. 5th. A. H. Giovanetti, J. Pipe; Jan. 7th. J. A. McGregor, P. Phillips; Jan. 8th. L. Lievers, G. Meikle; March 6th. L. W. Harrison, T. B. Service; March 7th. A. Morgan, C. H. Jones; March 8th. P. J. Reunert, H. Arkell, J. Davidson; March 11th. W. J. Barker, W. R. Healey, F. L. Pearce, C. A. Bouchier; March 12th. F. Barf; March 14th.

Flying Officers (Observers).—Temp. 2nd Lieut. B. Instone, R. War. R., seniority Jan. 5th, and to be transd. to R.F.C. Gen. List; 2nd Lieut. W. H. Eastoe, Lond. R. (T.F.), seniority Jan. 22nd, and to be second; March 31st. And to be transd. to R.F.C., Gen. List:—Temp. 2nd Lieut. A. R. Shepperd, attd. R. Suss. R.; March 27th, seniority Feb. 20th (March 31st). Temp. Lieut. B. W. Sims, E. Lan. R., seniority Feb. 28th; Temp. 2nd Lieut. H. E. Gooding, Manch. R., seniority March 5th. Seniority March 6th:—Temp. Lieut. A. E. G. Bailey, A.S.C.; Temp. Lieut. G. A. Bateson, Lan. Fus.; Temp. 2nd Lieut. W. C. O'Venden, R. Lanc. R., and to be transd. to R.F.C. Gen. List. Temp. 2nd Lieuts. (on prob.), Gen. List, and to be confirmed in their rank:—G. H. Fozzard; March 27th, seniority March 5th. W. P. Doyle; March 31st, seniority March 6th. W. G. Hurrell; March 28th, seniority March 19th.

Equipment Officers, 1st Class.—Capt. T. I. Walker, Lond. R. (T.F.), from the 2nd Cl.; Feb. 1st.

2nd Cl.:—From the 3rd Cl., and to be Temp. Lieuts. while so employed:—Temp. 2nd Lieut. J. W. Cruickshank, Gen. List; Feb. 1st. Temp. Lieut. J. Varley, E. York R. And to be Temp. Lieuts. while so employed:—Temp. 2nd Lieut. J. D. Fairbairn, Gen. List; Temp. 2nd Lieut. G. G. Onions, Gen. List; Temp. Lieut. C. F. Overy, Gen. List; March 1st. 2nd Lieut. W. R. Rhodes, S.R., and to be Temp. Lieut. whilst so employed; March 15th.

Schools of Instruction—Schools of Military Aeronautics.

Commandant (graded as a Wing Commander).—Major G. B. Stopford, R.A., from a Chief Instructor (graded as a Squadron Commander), and to be Temp. Lieut.-Col. while so employed; Jan. 1st.

Chief Instructor (graded as a Squadron Commander).—Temp. Capt. G. H. Gordon, Gen. List, from an Instructor (graded as a Flight Commander), and to be Temp. Major while so employed; Jan. 1st.

Instructors (graded as Equipment Officers, 1st Class).—From Assistant Instructors (graded as Equipment Officers, 2nd Cl.):—Capt. R. C. Gill, R.A. And to be Temp. Capt. while so employed:—Lieut. G. A. Scott, Middx. R. (T.F.); Lieut. A. Roberts, Welsh R. (T.F.), from a Flying Officer (Ob.); Temp. Lieut. C. H. Collins, Gen. List, from an Asst. Instr. (graded as an Equipment Officer, 2nd Cl.); Jan. 1st.

Assistant Instructors (graded as Equipment Officers, 2nd Class).—Temp. Lieut. S. O. Hillman, Gen. List, a Flying Officer (Ob.); Jan. 1st. And to be Temp. Lieuts. whilst so employed:—Temp. Lieut. G. H. Healey, Gen. List, an Equipment Officer, 3rd Cl.; Jan. 2nd. Temp. 2nd Lieut. F. Waller, Gen. List, a Flying Officer (Ob.); Jan. 15th. Temp. 2nd Lieut. A. G. Knight, Gen. List, an Equipment Officer, 3rd Cl.; Temp. 2nd Lieut. L. G. Mace, Gen. List, an Equipment Officer, 3rd Cl.; March 1st. 2nd Lieut. (Temp. Lieut.) A. W. Turner, Gen. List, an Equipment Officer, 2nd Cl.; March 7th. Temp. Lieut. M. K. Jones, Gen. List, a Flying Officer (Ob.); March 16th.

Examining Officer (graded as an Equipment Officer, 1st Class).—Lieut. R. W. Jepson, Ches. R., S.R., to be second, and to be Temp. Capt. whilst so employed; March 7th.

General List.—To be Temp. 2nd Lieuts.:—Acting L.-Cpl. H. Arkell, from Yeo. (T.F.); Jan. 25th. L.-Cpl. R. G. Smith, from Yeo. (T.F.); Feb. 14th.

To be Temp. 2nd Lieuts. (on prob.):—F. R. L. Lazier; Feb. 11th. U. Finch; March 3rd. H. B. Roy, R. B. Ronald, J. L. Hunter, G. A. R. Hill, J. Priestman, F. J. Prevost, G. T. Porter, J. N. Poole, F. H. Hall, J. P. Skrdlant, P. V. Frederichsen, W. R. Nichols, W. K. Gatewood, F. C. Robinson, J. R. I. Farquharson, C. E. Irving, W. B. Tait, T. S. Gordon, K. B. Terry, R. J. Williams, R. L. Gagnier, H. Phillips, L. C. Phippen, R. H. Rantree, S. E. Hart, W. A. Grant, H. E. Partridge, A. A. Schulman, W. N. Simpson, E. S. W. Smith, A. Engers, O. J. Orr, D. J. Roach, S. W. C. Palmer; March 10th.

Aeronautical Production Department.

London Gazette Supplement, April 30th.

Temp. Hon. Lieuts. to be Temp. Hon. Capt. :—E. L. Mann, while employed as Insp., Aeronautical Production Dept.; Oct. 1st, 1917. W. W. Ward, R. J. Butterworth; April 20th.

London Gazette Supplement, May 4th.

R. J. Bray to be Temp. Hon. Capt. whilst employed as Inspector Aeronautical Production Department; March 20th.

Air Fight on Hill Top.

"ONE of the picturesque episodes of the Kimmel fight was the attack on the top of the hill by German airmen while the infantry were storming the lower slopes," says Mr. Hamilton Fyfe in a despatch to the *Daily Mail* on May

3rd. "The defenders on the crest were busy firing on them, but soon these defenders found themselves under heavy machine-gun fire from the air. As many as 70 German aeroplanes, I believe, took part in this clever manoeuvre. Some bombed as well. They came down quite low."



Casualties.

Lieutenant S. C. HAMILTON BEGBIE, East Surrey Regiment, attached R.A.F., who was killed in action in the air on April 21st, aged 20, was the only child of Mr. and Mrs. Sydney D. Begbie, of Hill Head, Fareham, Hampshire, and late of Richmond Hill. He was educated at Bowden House, Harrow, Charterhouse, and Switzerland. He obtained his commission at 17, and saw active service on the Somme in 1916, returning to the front in 1918 at his own request.

Lieutenant KENNETH CHESTER HERRON, Yeomanry, attached R.A.F., of Wickham Place, Witham, Essex, who was killed on April 24th, aged 37, was the youngest son of the late George Oliver Mellick Herron and of Mrs. Jansen, of Newdigate Place, Newdigate, Surrey. He was educated at Bradfield College and abroad, and obtained a commission in the Yeomanry in January, 1915, and went to France in July, 1916. He transferred to the R.F.C. last August.

Lieutenant J. W. MCHATTIE, R.A.F., late London Scottish and York and Lancaster Regiment, who was killed on April 25th, was the son of James and Mrs. McHattie, of Enfield.

Major RICHARD RAYMOND-BARKER, M.C., R.A.F., who was killed in action in the air on April 20th, in his 24th year, was the son of Edward and Rose Raymond-Barker, of Bisley, Gloucestershire.

Captain CHARLES ALLAN PARKER, M.C., R.F.C., who was killed whilst flying abroad on February 9th, was the only son of Mr. and Mrs. Erskine Parker, Tasmania, and brother of the Hon. Mrs. Frank Eaton.

Lieutenant CHARLES SHEIL, R.A.F., who was killed on April 22nd, was the youngest son of Mr. and Mrs. R. H. Sheil, of 24, Burlington Road, Dublin. In September, 1914, he joined the famous "D" company of the 7th Royal Dublin Fusiliers, and served with them in Gallipoli, where he was wounded for the first time. He rejoined in time to take part in the retreat in Serbia, and remained with the remnants of the 10th Division at Salonika until he obtained a commission in the 1st Royal Munster Fusiliers, with whom he served in France from March, 1917. When leading his platoon at the Messines-Wytschaete battle on June 7th he was wounded for the second time. He remained with the Royal Munster Fusiliers until November, 1917, when he joined the R.F.C., and having completed his training went to the front early this year. He was mentioned in dispatches and awarded the Parchment Certificate for gallant conduct and devotion to duty in the field.

Lieutenant RALPH EUSTACE SMITH, R.A.F., whose death in action is announced, was the second son of the late Eustace Smith, of Benton House, near Newcastle-on-Tyne, and a grandson of the late Thomas Eustace Smith, of Gosforth Park, for many years M.P. for North Shields and Tynemouth. He joined a battalion of the Northumberland Fusiliers as second lieutenant on the outbreak of war, and was later transferred to the Northumberland Hussars, with whom he served for some time in France. Last autumn he joined the R.F.C., and up to the time of his death had been acting as an observer in a night bombing machine, having been specially mentioned for his good work. Lieutenant Smith was a director of Thomas and William Smith (Ltd.), of Newcastle, and of Smith's Dock Company (Ltd.), of North and South Shields and Middlesbrough. He married a daughter of Mr. Edward Joicey, of Blenkinsopp, and leaves a widow and two children.

Captain ERIC HUDSON TATTON, R.A.F., who was killed in action on April 20th, aged 23, was the youngest of the five sons of Mr. and Mrs. Tatton, of Edgware, and joined the U.P.S. Brigade in September, 1914. He received his commission in the East Yorkshire Regiment in January, 1915, and was gazetted lieutenant in the same year. He saw active service in Egypt and then in France, taking part in the offensive on July 1st, 1916. Subsequently he transferred to the R.F.C., and obtaining both his "wings," he was again at the front for eight months' active service. In July,

1917, he was sent back to England, and in August was gazetted captain and flight-commander, returning to the front on March 30th. His four brothers also joined H.M. Forces during the early days of the war. The eldest brother, Norman, fell at Vimy Ridge on April 9th, 1917; one, who served in Princess Patricia's C.L.I., has been invalided out of the Service, and two are now in France.

Captain PHILIP THOMPSON, who was reported missing on March 23rd, and is now believed to have been killed while fighting his machine on that date, was the only son of Mr. Whitaker Thompson, who was Chairman of the London County Council for 1910-11. Educated at St. Aubyn's, Rottingdean, and Winchester (Mr. Aris's house), he joined the R.F.C. in April, 1916. After some months in France he was chosen for nightflying defensive service in England, but soon after being promoted captain he was again posted to a squadron at the front. He was 19 years of age at the time of his death.

Lieutenant ROGER WILLIAM ASHWORTH, Hampshire Regiment, attached R.A.F., who was accidentally killed whilst flying on April 26th, aged 23, was the youngest son of the late Thomas Ashworth, of 2, Avenue Road, Regent's Park.

Lieutenant JOHN BURLEIGH CARLING, R.A.F., who died on May 5th in hospital at Croydon of illness contracted after many months' active service, was the youngest son of Mr. and Mrs. Fred W. Carling, of Ottawa, Canada. His age was 20.

Second Lieutenant DONALD HERIOT ANSON CHEERS, R.A.F., who was killed accidentally while flying in Scotland on April 17th, joined the Army when only 15 years old, and in August, 1915, was sent to France. He was given a commission as 2nd Lieutenant in June, 1917, and entered the R.F.C. His brother, 2nd Lieut. Ronald Anson Cheers, was killed in France in 1915, and another brother was dangerously wounded in 1916 in Mesopotamia and is now serving in India.

Major JOHN LAWSON KINNEAR, D.S.O., M.C., R.A.F., who was killed as the result of an accident while flying in Hants, was the younger son of the late Reverend H. G. Kinnear, of Copgrove Rectory, Yorkshire, and of the late Mrs. Kinnear, of Park House, Ripon. His age was 28.

Second Lieutenant LESLIE LAST, R.F.A., attached R.F.C., who was accidentally killed whilst flying in the East on February 21st, in his 23rd year, was the youngest son of Mr. and Mrs. Arthur Last, of Bolton House, Sutton. He was educated at the King Edward's High School, Birmingham, and Westminster. On the outbreak of war he mobilized with the "B" Battery of the H.A.C., and served with his battery in Egypt. In 1916 he returned home to take a commission in the R.F.A., and went out to Salonika at the end of the year. Ten months later he transferred to the R.F.C. After securing his wings he was appointed an instructor, and it was while flying with a pupil that he met his death.

Lieutenant EDMUND DOUGLAS MARRABLE, R.F.A., who was killed in a flying accident in Kent on April 26th, aged 24, was the only son of the late Douglas Heron Marrable and Mrs. Marrable, formerly of Dorchester.

Captain GILBERT HENRY MILLAR, R.A.F., who was accidentally killed while flying on April 29th, aged 33, was the third son of the late Henry E. Millar and Mrs. A. M. Millar, of Heathdown, Hampstead Heath, N.W. He was a scholar of Rugby and of Pembroke College, Cambridge, and took a double first in the Mathematical and Mechanical Triposes. Subsequently he joined the staff of the National Physical Laboratory. He was an accomplished yachtsman, and on the outbreak of war he joined the R.N.V.R. He was sent to Antwerp in October, 1914, was taken prisoner in the retreat, and was interned at Döberitz until September, 1915, when he effected his escape, in which he showed great courage and resource. On his return home he was given a commission in the R.N.V.R., being seconded for air duties,

and was employed in both theoretical and practical work, qualifying as a pilot. In June, 1917, he was transferred to the R.N.A.S. as an observer with the Fleet.

Lieutenant JOHN DOBSON THOMAS, R.A.F., who was killed in a flying accident in Hampshire, was a son of Mr. J. J. Thomas, formerly of Messrs. Lesh, Wilson, and Bell's ironworks, Walker, Newcastle-on-Tyne, and latterly connected with iron and steel works in America, and Mrs. Thomas, and grandson of the late John Dobson, R.A., architect, of Newcastle-on-Tyne. He had graduated at St. John's Military Academy and the University of Wisconsin, U.S.A.

Second Lieutenant ERIC JOSEPH WHITEHEAD, R.A.F., who was accidentally killed while flying on May 3rd, aged 18, was the eldest son of Mr. and Mrs. Joseph Whitehead, 16, Belvedere Grove, Wimbledon.

Prisoner of War.

Flight Commander and Captain JOHN D. TROLLOPE, R.F.C., who is now reported through the Central Prisoners of War Committee to be wounded and a prisoner, is the younger son of the late Howard Trollope, of Banstead, Surrey, and is aged 20. He was educated at Banstead Hall, and Malvern College. When war broke out he was studying for the F.S.I., having passed the preliminary examination. He joined the Army early in 1915, before he was 18, as a despatch rider in the R.E.'s, and was sent to France in June the same year, being invalided home in September. He joined the R.F.C. in June, 1916, and was in France flying from September the same year to March, 1917, after which he served as an instructor in England and was on home defence. Getting his Captaincy in August, 1917, Captain Trollope was out again in France on January 11th this year. Between then and the 28th of March, which day he was reported missing, he destroyed 18 enemy machines, six of which he brought down on Sunday, March 24th. He was seen by another flight commander fighting hard over the lines with enemy machines on March 28th. Captain John Trollope's elder brother, Captain C. J. Trollope, is also serving in the Army, and is now in Palestine, and he has two brothers-in-law serving, Captain F. T. Hill, M.C., R.A.M.C., in France, and Lieut.-Col. J. D. Crosthwaite, M.C. and Bar, who is also reported missing since March 21st after three years' continuous service in France.

Married.

Second Lieutenant WILFRED GEO. CORNER, King's Liverpool Regiment, attached R.A.F., sixth son of Mr. and Mrs. E. H.

Corner, of 4, Arundel Square, N., was married on Thursday, May 2nd., at St. Paul's Church, Winchmore Hill, N., to MURIEL WALDEN, eldest daughter of WILLIAM JNO. TAYLOR, of Benwell, Newcastle-on-Tyne, and grand-daughter of the late Major T. P. Walden, R.G.A.

Major LEONARD WRIGHT LEARMOUNT, D.S.O., M.C., R.A.F., only son of R. K. Learmount, of Gosforth, was married on May 7th, at St. James' Church, Muswell Hill, to ADA ELIZABETH BALL, elder daughter of A. Ball, of 86, Rosebery Road, Muswell Hill, N.

Major H. V. STAMMERS, R.A.F., second son of Mr. and Mrs. S. J. R. Stammers, Beaconsfield, Gunnersbury, was married on May 1st at St. Matthias Church, Richmond, Surrey, to ALICE MARGARET, only daughter of the late J. E. H. SPENCER, and of Mrs. Spencer, of 18, Montagu Road, Richmond.

To be Married.

The engagement is announced of Captain IVAN WILLIAM PARNELL, R.A.F., son of the late John Parnell, of Rainsbrook, Rugby, and Mrs. Parnell, Tower House, Hillmorton, to DOROTHY, younger daughter of Mr. VERNON CHINNERY-HALDANE, of Onich, Inverness-shire, and of Mrs. Vernon Chinnery-Haldane.

A marriage has been arranged between Lieutenant HUMPHREY VERDEN ROE, R.A.F., formerly Manchester Regiment, and MARIE CARMICHAEL STOPES, D.Sc., Ph.D., Fellow and Lecturer in Palaeobotany at University College, London.

The marriage of Captain J. G. SELBY, M.C., R.F.A. and R.F.C., and Miss DOROTHY BARTRUM will take place very quietly at the Chapel Royal, Savoy, on May 15th, at 12.

An engagement is announced between Captain W. H. WILLIAMS, Lancashire Fusiliers, attached R.A.F., son of the late John Williams and Mrs. Williams, of "Preswylfa," Carnarvon, and EDITH, elder daughter of the late Mr. and Mrs. T. P. ORMEROD, of Fern Bank, Castleton, Lancs., formerly of Christchurch, N.Z.

Items.

Miss DOUGLAS-PENNANT, who has been appointed Commandant of the Women's Royal Air Force, and was born in 1869, is the sixth daughter of the second Lord Penrhyn, and sister of the present peer. She has given proof of marked administrative ability as an Insurance Commissioner for Wales, a post which she has held since 1912.



Swiss Bag a Hun.

A GERMAN aeroplane, flying over Swiss territory, last week, was forced to land near Basle by the fire from the Swiss frontier posts.

What French Supremacy Means.

GENERAL MALATERRE, at a banquet given at the Aero Club in Paris in honour of the French airmen who have escaped from Germany:—"French aviation, having won definite supremacy, will henceforth play an efficacious strategic rôle in the war, and should even lead us to the left bank of the Rhine."

A Norwegian Exhibition.

ON May 2nd the King of Norway opened the first Northern aircraft exhibition, in the presence of the Queen, the Crown Prince, and a great number of officials. While the Royal party were inspecting the exhibition a number of machines were in the air. An official dinner was given in the evening, and the distinguished company included the Prime Minister, the Foreign Minister, the Swedish and Danish Ministers, the President of the Storting, and a number of authorities. After the President of the exhibition had proposed the toast of "The Northern Kings," the Prime Minister spoke on the advantage of aircraft to the intercourse of the Northern Kingdoms. There is lively interest in aircraft everywhere, especially in regard to traffic to the West.

Why Germany Wants the Baltic Provinces.

It is pointed out by the *Weser Zeitung* that one of the principal reasons why German industry requires the extension of German influence and control over the Baltic Provinces is the demand for flax and hemp. Of 500,000 tons of flax exported by Russia annually before the war, the greater part came from Courland, Livonia, and Esthonia. The German flax crop of 1917 fell far below the estimate, and although a considerable number of factories have taken to spinning paper, many have been closed altogether, and in some of those

still employed only 20 per cent. of the looms are working. The linen industry is practically confined to the output of coarse sailcloth, drill, and aeroplane material.

Seaplane Attack on Sailing Ship.

"FIVE Dutchmen, the crew of a small sailing vessel of about 100 tons, have been landed at a British port after escaping from an attack by four German seaplanes," reports the *Daily Chronicle*.

It is stated that about 40 miles off the coast of Holland, the airmen, who were without bombs, circled round the little vessel for nearly two hours maintaining an incessant fire upon it with their machine guns.

The crew when ordered to leave their boat took to the dinghy, and the wind took them towards the English coast. They were fortunate enough to be picked up by a small British craft, after pulling in a rough sea for hours and covering a distance of 60 to 70 miles.

On Friday night the abandoned vessel was brought into the same harbour, having been found derelict in the North Sea by a British destroyer. It was literally covered with machine-gun bullet holes.

German Air Raid Fears.

A BERLIN telegram to the *Rheinisch-Westfälische Zeitung* states that the Government representative, replying in the Reichstag to further questions from three Deputies regarding air raids, said:—"The question how enemy air attacks on open towns outside the war zone can be prevented has been repeatedly and thoroughly examined by all the departments concerned. There are no absolutely certain means for warding off aerial attacks. The best means is a good anti-aircraft defence; then the threat of reprisal flights against enemy capitals. The Army authorities are making endeavours in both directions."

After referring to Paris, the Government representative added that if definite proposals were received the military authorities would consider them.

TRADE PARLIAMENTS AND THEIR WORK.

By ERNEST J. P. BENN, Chairman Industrial Reconstruction Council.

III.—THE RATIONING OF MATERIALS.

ONE of the best examples of the sort of work that is waiting for the creation of Trade Parliaments is connected with the rationing of materials and priority arrangements. There is hardly a raw material of any importance which is not at the present moment either entirely owned by the Government or entirely controlled by the bureaucracy; whether it be wood, steel, wool, cotton, leather, or paper, the position is the same. Not one ton or sheet can be secured without some sort of permission from some sort of Government Department. It is the fashion to rail at all these arrangements and to hold up to ridicule the methods of the bureaucrats. This is not always fair, because it must be confessed that having regard to the almost total absence of adequate organisation in the various trades the war-time machinery which has been devised to undertake the necessary controls has worked as well as could be expected of any amateur contrivance. When the time arrives that these materials are no longer required for warlike purposes fresh arrangements will have to be made to cover the transition period, and to bring back our markets and our supplies by a gradual process to a normal condition. It is commonly assumed that on the conclusion of peace the repeal of the Defence of the Realm Act will follow as a matter of course, and that all controls, restrictions, licences, permits, exemptions, and certificates with which we now have to comply will automatically disappear. The business man is as a rule so fully conversant with the details of the weaknesses of the present system that he does not bother to go deeply into the problem, and contents himself with the happy idea that it will all come to an end some day. Nothing could be farther from the truth. The fact is that all these restrictions will have to be removed by degrees, and it is also certain that the bureaucracy will do everything that they can to maintain for as long as possible their grip over affairs. We have already had an illustration of this in the two Acts of Parliament which have recently been passed at the instance of the Board of Trade; the one giving to that office powers to continue after the war their present control of imports and exports, and the other giving to them very wide scope in connection with the non-ferrous metal trades. It may be that these two measures are really in the public interest, and there is no intention here to dispute that point, but even supposing them to be directly against the public interest measures presented in the way that they were by a Government charged with the conduct of the war are bound, in present circumstances, to receive the assent of Parliament. If, therefore, any Controller of anything cares to go to Parliament to-day for a lease of life extending well into the peace period the chances are heavily in favour of his getting what he wants. There is an urgent need for Trade Parliaments, authoritative bodies speaking with the voice of whole trades, backed by both Capital and Labour, at this very moment, in order simply to express the views of the trades on the need for a continuation of all these arrangements. It does not, of course, follow that in granting to the Board of Trade a continuation of its powers Parliament is acting foolishly; the only point that it is desired to make here is that it is acting without the possibility of knowing the views of those most vitally affected by what it does. Neither does it follow that if, say, the wool trade could express its opinions with one voice, those opinions would be in favour of a total and immediate abolition of the wool control immediately hostilities cease. After four or five or six years of artificial arrangements the industry might be ruined if markets were suddenly allowed to take care of themselves. It may well be found upon examination that a modified control for a time is essential. It will certainly be found that the present shortage of materials will continue for periods varying from months to years after the war. The most casual examination of the shipping figures places this point beyond argument. If, therefore, the supply of raw wool is likely to be half the demand there would seem to be a *prima facie* case for the continuation of some system of rations. The offer of the Government, expressed by three of its Ministers, is to transfer the duty of rationing from Whitehall to the Whitley Councils. Surely nothing could be better, and no offer could be more worth accepting. Any trade which has real concern for its future interests should be able to overcome any minor difficulties that may be in the way of the formation of an Industrial Council if only for the purpose of making sure that sane arrangements shall prevail for the supply of its requirements in raw materials. The machinery which controls raw material for war purposes is obviously not suitable for the control of those materials in times of peace. In the one case one buyer is supreme, in

the other all buyers will have to be put on level terms. The machinery required for the rationing of materials in the transition period is of two kinds. There must, first of all, be a central control in touch with shipping facilities which will decide the total tonnage that can be allocated to a particular material, and further to decide how that total tonnage shall be distributed as between trades. For example, if a million shipping tons of timber can be imported the central control will have to allocate it between the builders, the furniture men, the railway works, and the shipping yards. Then the respective Trade Parliaments of the building, the furniture, railway, and the shipbuilding industries, having secured the total tonnage for their industry, will arrange for the equitable distribution between their own members. Such a plan is quite obviously infinitely preferable to the present cumbersome process of priority certificates issued from a central office in Whitehall. To begin with, the traders themselves will be able to deal with their own requirements in far less time than any Government Office can hope to do, and when we are back on peace work time will be a very vital factor.

This in brief is the case for the Whitley Councils so far as raw materials are concerned. There are some trade associations which have, so far, failed to see the need for an Industrial Council in this connection. Their attitude is briefly that they are the representatives of the trade, and that if any rationing is necessary they are well fitted to undertake it. They claim that the supply of raw material is an employers' matter, and that Labour is not entitled to be consulted in this connection. The most superficial thought shows how utterly wrong this view is. The supply of wood or steel to the building trade is of much more importance to Labour than to Capital. To the former it means the difference between work or unemployment, whereas to the latter it can only mean the difference between the completion of a contract sooner or later. In allocating materials as between trades the Government, if it is a good Government, will certainly take into account the amount of labour which the material will keep going; thus, if a given quantity of wood will employ a thousand hands in one trade and only five hundred in another there will be a very strong case for preferential treatment of the former. There can be no doubt that the Government in this work of rationing must have very careful regard to the claims of Labour, must in fact consult both employers and employed on the matter. For this reason rationing cannot be left to be settled by employers' associations only, and rationing is one of the most urgent reasons why joint councils should be brought into being. The subject of rationing is by no means exhausted when we have considered imported raw materials, although that is, of course, the largest question involved. Priority will have to be arranged in many forms of manufactured articles. The best example of this sort of problem is in connection with the textile industries. It is understood that these trades are woefully short of machinery, while it will be admitted that at the end of the war one of the first jobs to be done will be to get the great textile industries working at full pressure. Here then arises the need for seeing that some of the first machinery which we can produce is placed at the disposal of the textile trade.

We shall see in a subsequent article how closely related this sort of problem is to the question of demobilisation. The trade which may be able to absorb large numbers of soldiers and war workers must obviously be supplied with the necessary facilities in the way of machinery and materials before some industry which does not offer the same advantages. Trade Parliaments in dealing with rationing and priority will also have to take into account the relative demands of the home and the foreign market. It is understood that foreign buyers, especially neutrals, are prepared to pay high prices for early deliveries of machinery. Matters must quite obviously be so arranged that the German should not be able through neutral agents, and by paying some small premium, to secure machinery to restart his industries while those same industries at home are held up for the want of it. There are many other matters to be considered in connection with this subject of rationing, but enough has been probably said to show that it will not be possible, or wise, to terminate suddenly existing arrangements, and to show the need for the creation of proper organisations in each trade to look after these matters on behalf of their trades. The only alternative would seem to be the continuation of the present centralised bureaucratic control and the consequent serious handicapping of our industries.

AVIATION IN PARLIAMENT.

Royal Air Force. Aeroplanes (Night Flying).

MR. GEORGE TERRELL, in the House of Commons on April 29th, asked the Under-Secretary of State to the Air Ministry whether, in view of the difficulty of aeroplanes being able to distinguish one another at night, he will see his way, for the purpose of encouraging inventors, to offer a substantial monetary prize to an inventor who will overcome the problem?

The Under-Secretary of State to the Air Ministry (Major Baird): The organisation under present conditions of anything in the nature of a prize competition for this purpose would, apart from other difficulties, involve diversion of effort and labour which would outweigh any advantage likely to be derived. The existing system of rewards and the motives of patriotism are, I think, sufficient incentives to inventors.

Mr. Terrell: To whom should inventors apply?

Major Baird: The Air Inventions Committee, 2, Clement's Inn.

Sir F. Hall: How is it possible to distinguish enemy aeroplanes from our own aeroplanes at night-time?

Major Baird: I scarcely think—

Hon. Members: Do not answer!

Major Baird:—I should answer that question.

Mr. Billing: Before any departure is made in this direction, will the authorities take the advice of a night pilot as to whether it is not a fact that by making our own machines distinguishable they are simply locating them by the enemy, while the enemy machines cannot be located?

Major Baird: I should desire notice of that question.

Labour for Aerodrome Works.

GENERAL CROFT, on April 30th, asked the President of the Board of Agriculture whether he is aware that in certain aerodrome works in Hampshire agricultural labourers are being attracted to this work under the promise of high wages, with a result that agriculture in the neighbourhood is being seriously affected; and what action he proposes to take?

Sir R. Wintrey: I am aware that at one time cases occurred in which labourers in Hampshire were taken on in aerodromes, and if the hon. and gallant member can supply me with any recent cases I will have an enquiry made into them. The hon. and gallant member is probably aware of the instructions recently issued by the Air Board, which have been quoted in this House, namely, that all

contractors shall engage labour only through Employment Exchanges, and that these Exchanges shall not send forward for work on aerodrome construction any applicant whose last employer was a farmer, or who is known to be an agricultural labourer.

Sir Hugh Trenchard.

MR. R. McNEILL, on May 2nd, asked the Prime Minister if he will say what position in the Air Service is to be occupied by Sir Hugh Trenchard; and what are the duties of that position?

The Under-Secretary of State to the Air Ministry (Major Baird): My right hon. friend is giving this matter his closest attention, but he is not yet in a position to authorise me to make a definite statement on this subject. He is engaged in reviewing the whole position of the Air Force, with the object of deciding what post will give the best scope for the utilisation of General Trenchard's great qualities. My hon. friend will easily appreciate that a decision of this importance ought not to be rushed.

Mr. R. McNeill: May we take that as an assurance that this case will not be put off as the case of Viscount Jellicoe?

Major Baird: I really think it is not a very fair thing to say about my right hon. friend who has just taken office that the answer that I have given is not absolutely correct. He has only just taken over the office of this brand new force, and he must make himself conversant with it before he can be called upon to give a decision.

Mr. P. A. Harris: Is the hon. and gallant gentleman aware that the Prime Minister, as recently as Monday, stated that the new Minister had already considered a proposal which was acceptable to General Trenchard?

Major Baird: If my hon. friend will refer to the speech, he will find that was not the expression which was used. The facts are exactly as I have stated them. There is every intention to make use of General Trenchard's services.

Major Hunt: Has any position been found for Sir David Henderson in view of the fact that he was so very much liked by all the men and officers in the Air Force?

Mr. Speaker: That does not arise out of the question.

Mr. Chancellor: Is it not a fact that it will be necessary to invent or create some new position for General Trenchard?

Major Baird: No, decidedly not! Neither the Secretary of State nor General Trenchard would consent to any course of that kind.

AIRCRAFT WORK AT THE FRONT.

OFFICIAL INFORMATION.

British.

"On the 29th inst. low reconnaissance work was again carried out by our aeroplanes. East of Loere the enemy's troops offered good targets to our pilots, who dropped 275 bombs on them, and engaged them with machine-gun fire. Seven hostile machines were brought down in air fighting, and one other was shot down by our infantry. Two of our aeroplanes are missing."

General Headquarters, April 30th.

"On April 30th mist and rain again prevented flying except for a few low reconnaissances, in the course of which bombs were dropped on the enemy's troops between Loere and Voormezele. One hostile machine was driven down and forced to land behind our lines. One of our aeroplanes is missing."

General Headquarters, May 1st.

"On the 1st inst. the unfavourable weather continued, and only short-distance reconnaissances, carried out by our aeroplanes at a very low height, and bombing were possible. None of our machines are missing. On the 2nd inst. a ton of bombs were dropped on the railway station and sidings at Thicville. One burst was seen on the Carlshutt Works, where a fire was started. Several bursts were observed on the barracks and on the railway station and sidings. All our machines returned."

General Headquarters, May 2nd.

"Italian Front.—Following a prolonged period of incessant rain and mist fine weather has at length set in. Patrol activity on both sides has been considerable; we have captured several prisoners. Much counter-battery work is being carried out, and a number of explosions have resulted in the hostile battery positions. Since my last report the Royal Air Force have destroyed 12 enemy aeroplanes, with a loss of three machines themselves. This brings the total number destroyed since the arrival of the British forces in Italy up to 109. Our loss in the same period has been 13 machines."

War Office, May 3rd.

"Although the weather was fine on the 2nd inst., a thick haze interfered with the work of our aeroplanes and artillery. Several important reconnaissances were carried out, and many photographs were taken well in rear of the enemy's lines. Three and a half tons of bombs were dropped on Bapaume and other targets in the battle areas. At times fighting in the air was severe. Fourteen hostile machines were brought down and four others were driven down out of control. Five of our machines are missing. During the night five and a half tons of bombs were dropped by us on Chaumes, Juniville railway junction, Bapaume, and Caix. Three very heavy bombs were dropped also from a low height on the lock gates at Zeebrugge. On the 3rd inst. another most successful raid was carried out by us against the railway station and sidings at Thionville. Carlshutte works were again hit, and several bursts were seen on the station, in the sidings, and on the gasworks. All our machines returned."

General Headquarters, May 3rd.

"On the 3rd inst. a most successful day's work was accomplished by our aeroplanes. Reconnaissances were carried out over all important areas and a great many photographs were taken. Good visibility assisted the co-operation of our aeroplanes with the artillery. Bombing was carried out with the utmost vigour, and a total weight of over 20 tons of bombs was dropped on Chaumes, Tournai, and La Bassée railway stations, and on Estaires, Marcelcave, Menin, Comines, and Middelkerke. Fierce fighting continued all day. Twenty-eight German machines were brought down and five others were driven down out of control. In addition, our anti-aircraft guns shot down three of the enemy's machines within our lines. Eleven of our aeroplanes are missing. After dark a thick mist set in on most parts of the front. Over two tons of bombs were dropped by us, however, on Chaumes and Juniville railway junctions. In spite of the very bad weather encountered, all our machines returned."

General Headquarters, May 4th.

"On the 4th inst. there was a dense mist till the afternoon, when the weather cleared slightly. Reconnaissances, photography, and bombing were carried out. Nine tons of bombs were dropped on Chaumes railway junction, on Bapaume, Armentières, Merville, and Estaires. There was very little fighting in the air. One hostile machine was brought down by our aeroplanes and four others were driven down out of control. Two of our machines are missing. Two of our aeroplanes, which were reported missing on the 3rd inst., have since returned. After dark, although the weather continued to be unfavourable for flying, over three tons of bombs were dropped on Chaumes railway junction and Bapaume. All our machines returned."

General Headquarters, May 5th.

French.

"On April 29th, Sub-Lieutenant Guerin brought down his 20th aeroplane. "Salonica.—Allied airmen carried out numerous bombardments. Two enemy aeroplanes were brought down in air fighting."

Paris, May 1st.

"Salonica.—An enemy machine was brought down south of Ghevçeli by a French airman."

Paris, May 2nd.

"During May 2nd eight German aeroplanes were brought down, three by the Anti-Aircraft Corps. In addition, 12 enemy machines were badly damaged and fell in their own lines after encounters with our pilots. Our bombing forces carried out numerous operations during the day of the 2nd and the following night. Twenty-seven thousand kilogrammes of bombs were dropped on the stations of Ham, Nesle, Roye, Chaumes, St. Quentin, and Jussy, and on the bivouacs and cantonments in those regions. Eight thousand kilogrammes of bombs were dropped on enemy establishments in the region of Rethel and on the railway station of Asfeld-La Ville."

Paris, May 3rd.

"Salonica.—British airmen successfully bombarded enemy convoys south-east of Seres."

Paris, May 4th.

"In the course of Friday and Saturday, nine German machines were brought down by our pilots in air fighting, and two by our anti-aircraft guns. In addition 23 enemy machines were seen to fall disabled in their own lines. In the course of the same two days and during the night of the 3rd-4th, our bombing machines made a number of expeditions. Twenty-eight thousand kilogrammes of projectiles were dropped on the railway stations at Ham, Chaumes, Jussy, Péronne, and St. Quentin, and on depôts and cantonments in those districts."

Paris, May 5th.

"Salonica.—Allied airmen have carried out many bombardments, and brought down two enemy machines."

Belgian.

"Later information shows that two German aeroplanes were brought down by our airmen on April 25th."

Havre, April 30th.

"One German aeroplane was brought down in air fighting and crashed between the enemy lines and our own."

Havre, May 3rd.

Italian.

"Three enemy aeroplanes were brought down by our chasing machines over Grave di Papadopoli, Cimadolmo, and Fontanelle. Two more were hit by British airmen. One of them fell in the neighbourhood of Fonzaso, the other at Santa Lucia di Piave."

Rome, May 2nd.

"Over the whole front there were aircraft activities, reconnaissances were carried out, and air combats took place. Eight hostile machines are reported destroyed."

Rome, May 3rd.

"A number of aircraft actions were carried out on our part, the enemy attempting in vain to oppose them by violent anti-aircraft fire and by the activity of his chasing flights. The hutments in the Val d'Assa were hit with 60 bombs by British airmen. One of our airships dropped one ton of explosives on the aviation ground at Campomaggiore (south of Sedico). Twelve hostile machines were brought down, and one forced to land by our own and British airmen, while another was hit by our anti-aircraft guns, and fell in flames."

Rome, May 4th.

"The activity of our aircraft was intense. Caproni flights and British aeroplanes, protected by a number of chasers, dropped about nine tons of bombs on the hydro-electric works at Cavedin (north of Mori). While this operation was in progress other machines renewed the bombing of the aviation ground at Campomaggiore (south of Sedico). Last night our airships, reaching by surprise the railway stations of Primolano and Bolzano, dropped there their loads of bombs with good effects. At the same time an airship of the Royal Navy engaged enemy columns on the march beyond the Tagliamento. Eight enemy machines are reported destroyed, two of which fell in flames within our lines."

Rome, May 5th.

German.

"Yesterday we shot down 25 enemy aeroplanes and two captive balloons. Lieut. Buckler achieved his 33rd aerial victory and Lieut. Peutter his 22nd."

Berlin, May 4th.

SIDE-WINDS.

A NEW company, called Rustless Iron (Cowper-Coles Process), Ltd., has been formed, and will specialise in rustless fittings of all descriptions, especially for seaplanes and aeroplanes, also railway and ships' fittings. We understand that the company has acquired some important improvements in Sherardising from Mr. Cowper-Coles, also a new process called Doxidising, which is specially suitable for steel fittings exposed to salt water, as the zinc coating itself is protected from corrosion. The headquarters of the firm are at Shepperton-on-Thames.

IN their advertisement in the issue of May 2nd, Messrs. Barimar, Ltd., referred to a broken De Dion shaft, and details were given of a speedy repair in which only a few hours elapsed between the breakage and the re-creation of the fractured part by Barimar, Ltd. Incidentally it was remarked that Messrs. De Dion Bouton could not supply a spare to take its place. Messrs. De Dion Bouton would like to make it quite plain that, although they may have not been able in this instance to supply a new part from stock, they do in fact carry quite considerable stocks of spares of most descriptions.

WOODWORKERS will be interested in a new bit which is being introduced by Mr. Arthur Collier, of Electric Avenue, Brixton, S.W. It has been designed to bore clean holes in wood, and more especially ply wood. It is stated that the bit has been tested for ten weeks in a large aircraft factory with very satisfactory results, the test being to bore $3\frac{1}{4}$ in. holes through eight thicknesses of $\frac{1}{8}$ -in. three-ply wood at a time. Two sizes are made—No. 1, boring from $1\frac{1}{4}$ in. diam. to $2\frac{1}{8}$ in. diam.; No. 2, boring from $2\frac{1}{4}$ in. to $3\frac{1}{4}$ in. diam., in each case advancing by $\frac{1}{8}$ in. at a time.

THOSE who are engaged on the laying out of dope rooms will find a lot of useful information in a little booklet on the subject which has been got out by the Sutcliffe Ventilating and Drying Co., Ltd., who have specialised in the warming and ventilating of dope rooms and aeroplane factories to satisfy Home Office requirements. They have carried out a large number of such installations in factories devoted to war work of one sort and another, and they will be pleased to place their extensive experience at the disposal of anyone who is troubled with such matters. A copy of the booklet can be obtained on application to the Sutcliffe Co., Ltd., at Cathedral Gates, Manchester.

Liverpool's Gift to Newfoundland.

THE aeroplane which has been purchased with the funds raised by the Liverpool Chamber of Commerce was formally presented to Newfoundland at Liverpool on Saturday.

The ceremony was preceded by a luncheon, at which reference was made to the important trade relations between Liverpool and Newfoundland and to the possibility of establishing aerial communication with different parts of the Empire after the war.

Lord Desborough accepted the gift on behalf of the Imperial Air Fleet Committee. The thanks of Newfoundland were expressed by Lord Norris, Sir Joseph Outerbridge, and Colonel Franklin.

Canal and Road Traffic Interfered with.

FROM a reliable source at the Hague *Les Nouvelles* learns that allied aviators recently succeeded in sinking in a single day 23 Belgian boats laden with gravel and road metal destined for the German front in Picardy. The vessels were then seven or eight miles from the enemy rear-lines. Three weeks ago the Luxemburg bridge at Namur was again badly damaged by aircraft. Two of its arches were destroyed, one boat was sunk, and three German soldiers on sentry duty on the bridge were killed. The movement of vessels to the front has never been so intense as since the opening of the German offensive, and never have the destruction and devastation wrought by the Allied airmen been so great. The roads have been so cut up that the Germans experience great difficulty in bringing up gravel and stones in sufficient quantities to fill up the craters.

What German Prisoners Say.

"GERMAN prisoners are again complaining bitterly," records the *Morning Post*, "that since the present offensive began, their own airmen have given them insufficient protection from the bombing activities of the British flying officers. One referred especially to the British bombing of German troops and billets in the Bapaume area, where apparently great execution was done. This prisoner assumed—not unnaturally perhaps—that the British air work in the other areas outside his personal experience had

been equally deadly for his compatriots. A German officer prisoner belonging to a famous regiment stated that a few days before he was taken a British airman dropped a bomb on an ammunition train in Weincourt Station, and that the whole train exploded. It had been carrying a large number of shells for the 36 cm. Austrian guns. As a result the guns in question were able to play but a very small part in the bombardment leading up to the German attack of April 24th for lack of ammunition.

"Another prisoner enlarged at length upon the remarkable number of casualties caused by British bombing airmen in the Bapaume area at the end of March and during the first half of April. This prisoner said he had seen great masses of wrecked German transport and very many dead horses killed by the British bombs. The number of killed and wounded among the troops was also very large indeed. One German aerodrome, which he named, had to be moved back seventeen miles in order to protect it from the British bombs. This was not regarded as very helpful to the German infantry."

These different statements, it is stated, bore the impress of truth, and were checked and endorsed by the comments of other prisoners who had had no intercourse with the first speakers.

"How an Aeroplane is Built."

WE understand that it has now been decided that the price of "How an Aeroplane is Built," by Stephen Blakeney, is to be 5s. (5s. 6d. post free), and not 7s. 6d. as mentioned in our last issue.

Advertisements Held Over.

OWING to the great pressure upon our space, we regret that it has been necessary to hold over a number of small advertisements.

NEW COMPANY REGISTERED.

R. L. DUBOIS AND CO., LTD., 5, Khartoum Parade, Ilford Lane, Essex.—Capital £2,000, in £1 shares. Acquiring business now carried on at 673, Romford Road, Manor Park, London, as "R. L. Dubois and Co.," and the business carried on at 5, Khartoum Parade, Ilford, Essex, as "Patenall Co.," aeronautical and aeroplane engineers, &c. First directors:—R. L. Dubois, M. C. Bachofer, A. L. Bachofer, L. Schaer and E. J. Marro.

Aeronautical Patents Published.

Applied for in 1917.

The numbers in brackets are those under which the Specifications are printed and abridged, &c.

Published May 2nd, 1918.

- 4,492. A. BOERNER. Carburettor apparatus for aeroplane engines. (114,459.)
- 4,688. W. R. LYTLETON and TRIPLEX SAFETY GLASS Co. Glass-cutting machines. (114,462.)
- 5,512. R. A. BRUCE. Seats for cars of aircraft. (114,498.)
- 5,590. L. G. LEVY. Aeroplanes and hydro-aeroplanes. (106,818.)

NOTICE TO ADVERTISERS.

IN order that "FLIGHT" may continue to be published at the usual time, it is now necessary to close for Press earlier. All Advertisement Copy and Blocks must be delivered at the Offices of "FLIGHT," 36, Great Queen Street, Kingsway, W.C. 2, not later than 12 o'clock on Saturday in each week for the following week's issue.

If you require anything pertaining to aviation, study "FLIGHT'S" Buyers' Guide and Trade Directory, which appears in our advertisement pages each week (see pages lii, liii, and liv).

FLIGHT

and The Aircraft Engineer.

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